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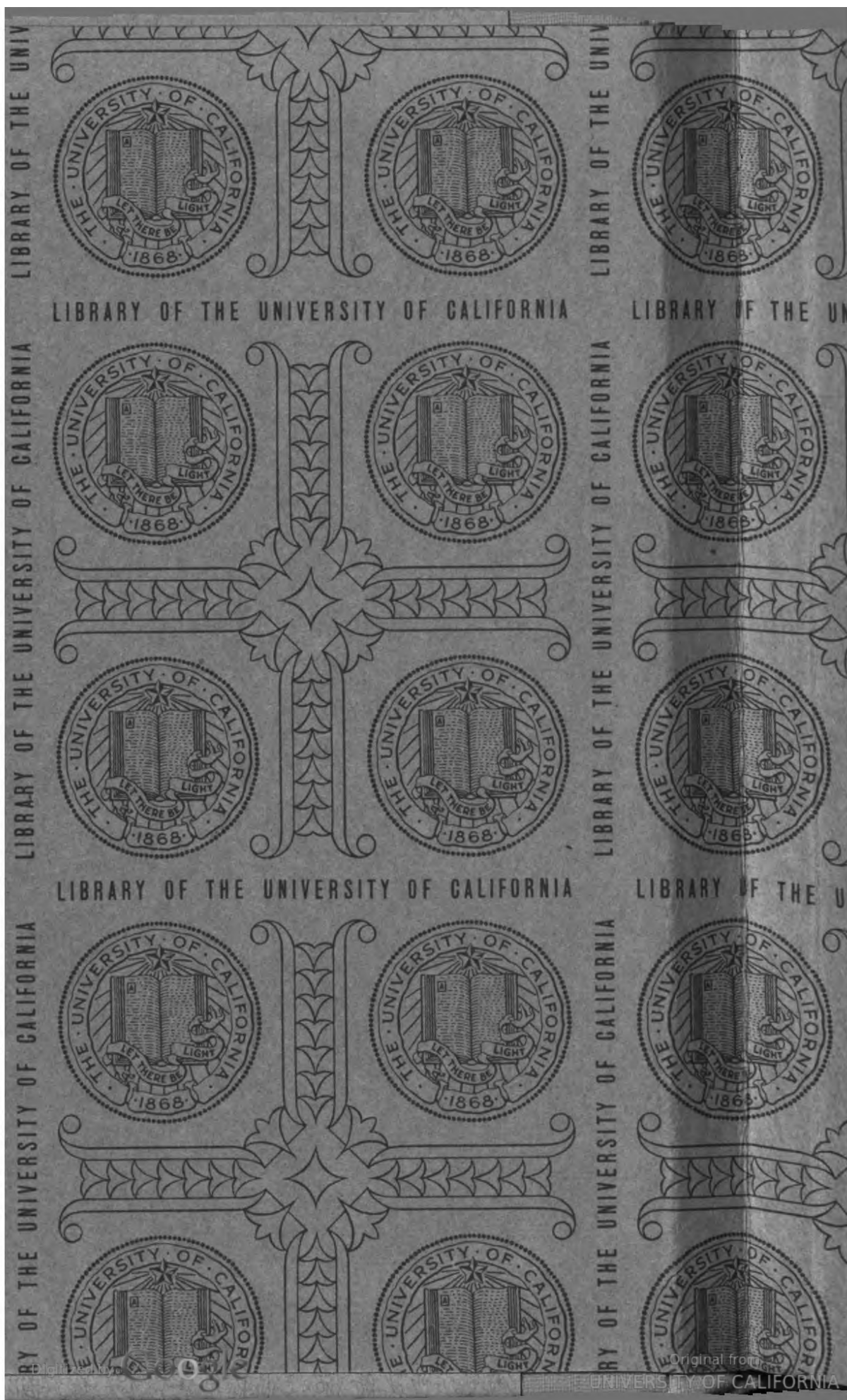
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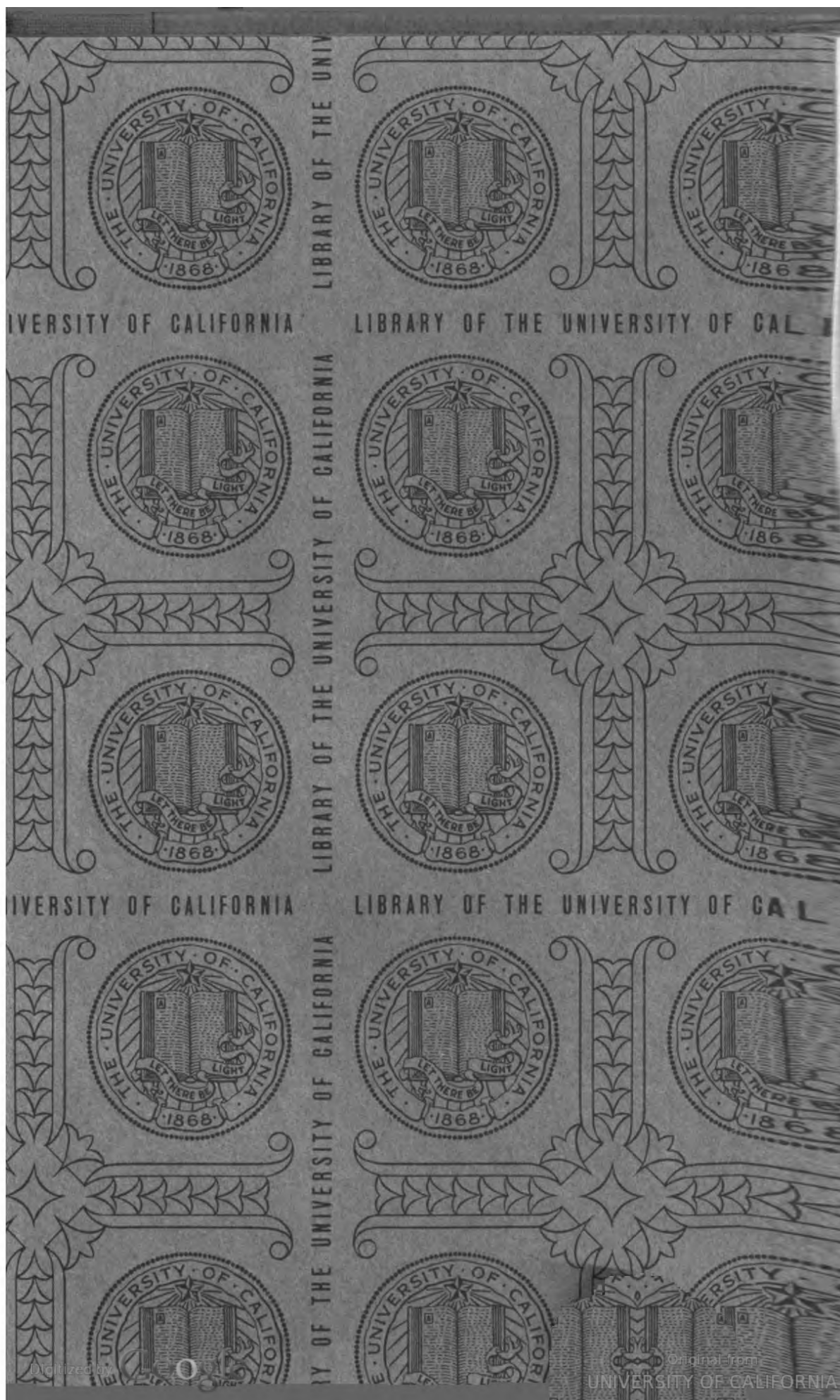
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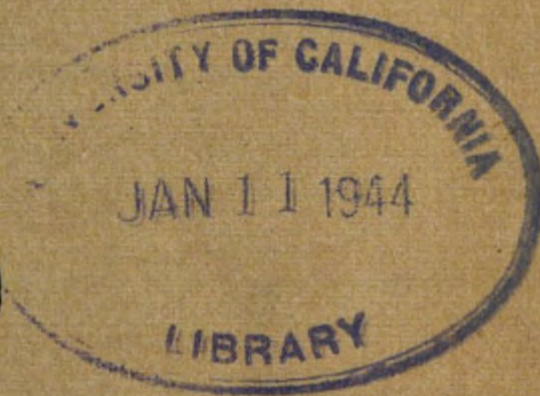
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NUMISMATIC NOTES
AND MONOGRAPHS

No. 97



THE ENDICOTT GIFT OF GREEK
AND ROMAN COINS
INCLUDING THE "CATACOMBS" HOARD

BY

SAWYER McA. MOSSER

97-100

THE AMERICAN NUMISMATIC SOCIETY
BROADWAY AT 156TH STREET
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TETRADRACHM—TYPE OF ALEXANDER III
STRUCK BY NICOCLES OF PAPHOS
(Enlarged approximately two and one-half diameters)

THE ENDICOTT GIFT OF GREEK
AND ROMAN COINS
INCLUDING THE "CATACOMBS" HOARD

BY
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THE AMERICAN NUMISMATIC SOCIETY
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THE ENDICOTT GIFT OF GREEK AND ROMAN COINS

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FOREWORD

The F. Munroe Endicott Collection of Greek and Roman Coins was received by the American Numismatic Society in 1935 as the generous gift of Mrs. George Endicott and her son, De Witt Endicott. Because of the general excellence of the collection and the presence in it of outstanding coins and of selections from several hoards, it was felt that it merited a publication of its more important and representative pieces. Thus, publication is here made of the Greek coins, exclusive of the Alexandrian, of a cross-section of the Severan pieces from the "Catacombs" Hoard, and of the more interesting of the other Roman coins. In his work of cataloging the collection and preparing it for the trays of the Society's cabinet, the compiler was constantly dependent on the advice and help of the Society's late President, Mr. Edward T. Newell, who also assisted in selection of the pieces to be included in the present paper.


The quality and condition of the 427 Greek and 714 Roman pieces in the collection reflect its collector's rare discrimination and artistic taste as well as his appreciation of the historical importance of ancient coins. Its formation covered a period of

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over twenty-five years. Mr. Endicott's interest in coins was first aroused as a young secretary of the United States Legation at Cairo, Egypt, by the finding at Demanhur of the greatest hoard of silver coins of Alexander the Great as yet unearthed. In friendly competition with a young secretary in the British foreign service, Ronald Storrs—later to become governor of Jerusalem and governor of Cyprus—he sought out Alexander pieces from the famous find. The finest and rarest specimens were secured by the two young enthusiasts. Later, large sections of both lots passed into the collection of Mr. Edward T. Newell, whose publications on the Demanhur Hoard¹ are the basis of our modern scientific assignment of Alexander tetradrachms to their various mints. Thirty-five pieces from the hoard (Nos. 18–52 below) remained in the Endicott Collection.

Most outstanding of the Alexander pieces in the collection is a tetradrachm (No. 40 below and illustrated in enlarged size as the frontispiece) of the regular type bearing the name of Alexander on the reverse. This piece, like many others with Alexander's name, was issued after his death. In a close examination of the coin Mr. Endicott discovered a most unusual feature, the presence of the minute letters NIKOKAEOPYΣ on the right-hand row of locks running from the ear to the jaw of the lion's-

¹ "Reattribution of Certain Tetradrachms of Alexander the Great," *American Journal of Numismatics*, XLV–XLVI (1911–12); *Alexander Hoards—II. Demanhur Hoard* (Numismatic Notes and Monographs No. 19). 1923.

skin head-dress of Heracles on the obverse. In holding the coin so that the Heracles head faces downwards, the letters NI are to be found on the first lock to the left, KO on the next lock to the right, KA on the third, EO on the fourth, and YΣ on the fifth and last lock immediately adjacent to the lion's ear. The discovery of the lettering was communicated to Mr. Newell and permission given him to publish the coin.² In an earlier article³ Mr. Newell had already assigned such pieces bearing the monogram  on the reverse to the mint of Paphos on the island of Cyprus. The presence of the name Nicocles, one of the princes of Paphos, on this specimen furnished corroboration of the mint attribution. The Endicott piece bears evidence that Nicocles was ambitious, as this is the first instance of any ruler except Alexander himself and his immediate successor Philip III placing his own name on the coinage of the Alexander type. It was not until fully fifteen years later that such powerful kings as Seleucus, Lysimachus, Ptolemy or Demetrius dared or found it advisable to do the same. At first, Nicocles did not have the courage to issue coins with a change from the type which Alexander had established or to substitute his name for that of Alexander. On this piece, however, without changing the types, and leaving Alexander's name on the reverse, he authorized his mint-master

² "Nikokles, King of Paphos," *Num. Chron.*, 4th Ser., Vol. XIX, 1919, pp. 64-5. This piece is also referred to in Mr. Newell's monograph on the Demanhur Hoard, *op. cit.*, p. 108.

³ "Some Cypriote Alexanders," *Num. Chron.*, 4th Ser., Vol. XV, 1915, pp. 319-20.

to place his name in minute letters on the locks of the lion's pelt which covers the head of Heracles on the obverse. Nicocles of Paphos was allied with Ptolemy I, King of Egypt, when, after the death of Alexander, the kingdom was divided among his followers. According to historians, Nicocles made overtures to one of Ptolemy's rivals who disputed Ptolemy's claim to Cyprus, and Ptolemy made an example of Nicocles when he learned of the intrigue. Emissaries of the Egyptian overlord appeared before the palace of Nicocles and informed him that his faithlessness had been discovered. Nicocles, therefore, committed suicide as did his wife and other members of his family. On only one other type does the name of Nicocles appear and of this type only two specimens are known to exist, one of which is suspect. This type bears on its obverse a head of Aphrodite, wearing a tall stephanos, and surrounded by battlements; and on the reverse, Apollo seated on the omphalos, holding arrow and bow, with ΝΙΚΟΚΛΕΟΥΣ ΠΑΦΙΟΝ in the left field. These coins (the genuine in the Turin Library and the suspect in Florence) are discussed by G. F. Hill in B. M. C., *Cyprus*, p. lxxix, Pl. XXII, 10-11.

When varieties found at Demanhur had become exhausted Mr. Endicott turned to other series to be found in Egypt, the Ptolemaic (Nos. 67-100) and the Alexandrian. Among the 327 Alexandrian issues there are instances of variations from already published types. The most interesting of these will be found below (Nos. 101-109). Noteworthy is the large bronze of Antoninus Pius with the unusual

reverse type showing a bust of Sarapis above the model of a human foot. Interesting also is the Egyptian lead token (No. 110) bearing types similar in subject and style to the regular Alexandrian coinage.

On leaving Egypt, Mr. Endicott began to acquire choice specimens of other Greek series, especially of Italy and Sicily (Nos. 1-16), as well as exceptionally fine Roman portrait pieces—always confining himself to well preserved examples. From the Roman series the most interesting pieces have been selected for description and illustration. The collection is particularly rich in the silver coinage of the emperors of the Severan family due to the acquisitions of Mr. Endicott from the so-called "Catacombs" Hoard. A representative selection from this series has been included (Nos. 123-161). The known facts concerning the hoard from which the bulk of them come are as follows.

THE "CATACOMBS" HOARD

In a carefully posted account book Mr. Endicott noted additions to and withdrawals from his collection. This account book, now in possession of the American Numismatic Society, throws many interesting sidelights on his coins with its information on costs and notations of pedigree. It is from this book and other notes among his papers that we learn that a large portion of his Roman coins came from a hoard.

Eight entries headed "*Catacombs*" Hoard were

made by Mr. Endicott to cover purchases of denarii and antoniniani from Shelley W. Denton and Charles Bell, both of the environs of Boston. The first of these entries was dated Dec. 18, 1922, and the last Nov. 11, 1924. A total of 399 denarii and 95 antoniniani was purchased in these eight lots. Mr. Endicott disposed of duplicates—179 denarii and 51 antoniniani. There is no evidence that Mr. Endicott acquired the entire hoard but it appears on the basis of the coins listed that at least a representative section passed into his hands. From the account book it has been possible to reconstruct the portion of the hoard purchased and, in most instances, to identify the pieces therefrom still in the collection.

The earliest pieces of the hoard were of M. Aurelius and Commodus, each of whom was represented by one denarius. Severus Alexander was well represented with eighty-four denarii and the latest coins were the forty-four denarii and seventy-four antoniniani of Gordian III. Only pieces of Septimius Severus show signs of wear; most of the others are in practically mint state. Excepting for two denarii of Septimius Severus, one of Julia Domna, and one of Geta from Laodicea, all coins remaining in the collection were struck at Rome. This circumstance lends credence to the suggestion of Mr. Endicott's entry "*Catacombs*" Hoard, that the hoard was found in one of the catacombs of Rome.

A summary of the hoard follows; numerals in *italics* indicate pieces no longer in the collection.

GREEK AND ROMAN COINS

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	Denarii	Antoniniani	Total
M. Aurelius.....	1		
Commodus.....	1		
Sept. Severus.....	15 +	6	
Julia Domna.....	7 +	9	1
Caracalla.....	22 +	14	5
Plautilla.....	2 +	1	
Geta.....	5 +	7	
Macrinus.....	6 +	1	
Diadumenianus.....	1		
Elagabalus.....	20 +	10	3
Julia Soaemias.....	3 +	2	
Julia Maesa.....	4 +	2	
Julia Paula.....	1 +	1	
Aquila Severa.....	1		
Severus Alexander.....	51 +	33	
Orbiana.....	1		
Julia Mamaea.....	12 +	4	
Maximinus.....	35 +	35	
Maximus.....	1		
Paulina.....	2 +	1	
Gordian I.....	1		
Balbinus.....	7 +	1	
Pupienus.....	11 +	16	1
Gordian III.....	12 +	34 +	51
	220 +	179	44 + 51
			494

The following table gives a complete listing of the pieces from the hoard purchased by Mr. Endicott. In the first column will be found for each variety a reference to Mattingly and Sydenham's *Roman Imperial Coinage*; in the second column, corresponding references to Cohen's *Description historique des monnaies frappées sous l'empire romaine*; in the third, the number of pieces remaining in the collection when received by the American Numismatic Society; in the fourth, the number disposed of by Mr. Endicott; and in the fifth, the totals for each

variety. Numerals in italics indicate antoniniani; all others refer to denarii.

	M. & S.	Cohen	Endicott	Sold	Total
M. Aurelius	48-52	516-20		1	1
Commodus	168	542		1	1
Sept. Severus	78a	188	1		1
	122c?	21?		1	1
	144b	719	1		1
	150	454		1	1
	166	586	1		1
	167a?	599?		2	2
	176	370		1	1
	201	475	1		1
	207	493	1		1
	211	489	1		1
	220	565	1		1
	226	525	1		1
	228	529	1		1
	266	222	1		1
	277	296	1		1
	288	606	1		1
	295	744	1		1
	308	791		1	1
	497a	642	1		1
	497b	642 var.	1		1
Julia Domna	373A	32	1		1
	382	137	1		1
	388c	212	1		1
	389b	205	1		1
	390c	230	1		1
	546	14	1		1
	551	47		1	1
	552	55		1	1
	553	58		1	1
	559	82		1	1
	564	123	1	2	3
	572	150		1	1
	574	156	1	1	2
	575	170		1	1
Caracalla	34?	61?		1	1
	30a.	413	1		1
	81?	421?		1	1

GREEK AND ROMAN COINS

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	M. & S.	Cohen	Endicott	Sold	Total
Caracalla.....	82	422	1		1
	83	424		1	1
	88	431	1		1
	95	440		1	1
	112	464	1		1
	117	477	1		1
	141	646 var.	1		1
	149	667	1		1
	158	128	1		1
	189	84	1		1
	192	196	1		1
	194	195	1		1
	195	205		1	1
	196	206		1	1
	206	220	1		1
	209a	224		1	1
	222	149	1		1
	223	150	1	1	2
	238a	242	1	2	3
	240	239	1		1
	251	302 var.	1		1
	258a	279 var.	1		1
	260b	277	2		2
	267	316		1	1
	280e	349	1		1
	281a	358	1		1
	302	139	1	1	2
	307	152	1		1
	311b	606	1		1
	311c	608	1		1
	351	572		1	1
	281b	359	1	1	2
Plautilla.....	363a	1	1		1
	369	25	1	1	2
Geta.....	9a	38b		1	1
	13a	90	1	1	2
	20b	183		2	2
	30	78		1	1
	44	69	1		1
	38b	230	1		1
	51	170		1	1
	69a	137	1		1

	M. & S.	Cohen	Endicott	Sold	Total
Geta	69b	138		1	1
	105a	85 var.	1		1
Macrinus	6	23	1		1
	15	70 var.	1		1
	26	47 var.	1		1
	27	51 var.	1		1
	59	15 var.	1	1	2
	68	26	1		1
Diadumenianus	102	3	1		1
Elagabalus	1	126	1		1
	42	189	1		1
	46	196	1	1	2
	56	1	1	1	2
	73	38	1	2	3
	88	61	1	1	2
	88 var.	61 var.	3	1	4
	95	70	1		1
	107	92	3	1	4
	115	101	1		1
	121	109	1		1
	125	120	1		1
	130	244	1		1
	131	246		1	1
	138	255	1		1
	140	256	1		1
	146	276	1	1	2
	146 var.	276 var.		1	1
	150	282	1		1
	152	294	1		1
	156	289	1		1
Julia Soaemias	241	8	2		2
	243	14	1	2	3
Julia Maesa	263	29	1		1
	268	36	1		1
	271	45	2	2	4
Julia Paula	211	6	1	1	2
Aquilia Severa	226	2	1		1
Severus Alexander	5	204	1	2	3
	11	216	1	1	2
	14	216	2		2
	19	229	1		1
	23	231	1		1

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	M. & S.	Cohen	Endicott	Sold	Total
Severus Alexander.....	27	236	1	1	2
	32	239	1		1
	44	256	1	2	3
	53	281	1		1
	61	305	1		1
	64	312		1	1
	65	315	1		1
	67	319	1		1
	70	325	2		2
	75	338		2	2
	78	346		1	1
	92	365	1		1
	101	388	1	1	2
	114	434	1	1	2
	120	440	1		1
	123	448	1		1
	125	453	1		1
	127	9	2	1	3
	133	23	1	1	2
	135	28	1		1
	139	52	1		1
	144	95	1	1	2
	156	152	1		1
	160	173		1	1
	168	187	1	1	2
	102	391	1		1
	165	183		1	1
	169	191	1	1	2
	174	512	1	4	5
	178	530	1		1
	180	564	1		1
	182	576	2	1	3
	184	1 var.	1	1	2
	193	51	1		1
	200	73 var.	1	2	3
	205	133	1		1
	218	566	1	2	3
	238	83	1	1	2
	239	84	3	2	5
	246	161	3		3
	254	546	2	1	3
	290	181 var.	1		1

	M. & S.	Cohen	Endicott	Sold	Total
Orbiana.....	319	1	1		1
Julia Mamaea.....	331	5	1		1
	335	17	3	1	4
	341	32	1	1	2
	343	35	2	2	4
	351	60	1		1
	360	81	3		3
	338	24	1		1
Maximinus I.....	1	46	3		3
	1 var.	46	1		1
	3	55	3	2	5
	6	70	2		2
	7a	7	4	5	9
	12	31	4	5	9
	13	77	3	6	9
	14	85	2	2	4
	16	99	3	3	6
	18a	9	1	2	3
	19	37	3	2	5
	20	75	2	2	4
	21	91	2		2
	23	107	2	6	8
Maximus.....	3	10	1		1
Paulina.....	2	2	2	1	3
Gordian I.....	4	8	1		1
Balbinus.....	3	10	2		2
	5	20	1		1
	7	23	1	1	2
	8	27	2		2
	2	8	1		1
Pupienus.....	1	6	1	7	8
	3	14	2		2
	4	22	7	7	14
	6	26	1	2	3
	11b	21	1		1
Gordian III.....		17	2		
		22	1	6	10
		25	1		
		39	1		1
		50	1		
		53	1	2	4
		62 var.	1	3	4

GREEK AND ROMAN COINS

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	M. & S.	Cohen	Endicott	Sold	Total
Gordian III.	69	1	6	7	
	86	1	1	2	
	105	1	3	4	
	120	1	3	4	
	130	2	2	4	
	133	1	2	3	
	145 var.	1	4	5	
	173	2		2	
	182		2	2	
	186	1		1	
	189	1		1	
	192		1	1	
	194	1	3	4	
	196	1	2	3	
	199	1	1	2	
	203	1	1	2	
	205		3	3	
	210		2	2	
	212	2	1	3	
	226	2		2	
	234	2	11	13	
	238	1		1	
	302	1	2	3	
	313	1	3	5	
	314	1			
	325	1	2	3	
	340	2	8	10	
	347	1	2	3	
	357	1	2	3	
	381	1		1	
	386	1	5	7	
	388	1			
	403	1		1	
	383	1	1	2	
	312	1	1	2	
	62	1		1	

ITALY

CALABRIA

TARENTUM

334-302 B. C.

*1. Naked horseman, lancing downwards with r. hand, on horse prancing r.; behind, a large round shield and reserve of two spears; beneath horse ΣΑ.

Rev. ΤΑΡΑΣ Taras, naked, astride dolphin l.; holding kantharos in r. hand, a trident in l.; in front $\frac{\Omega}{\Sigma}$; beneath, small dolphin l.

Æ. Didr. 7.92 grms. 21 mm. ↗ *Ex Hirsch XXVI*, Pl. X, 203; Cf. B. M. C. *Italy*, p. 191, 229; Evans, *Horsemen of Tarentum* (Num. Chron., 1889), p. 103, B 15, Pl. VI, 7.

LUCANIA

METAPONTUM

550-480 B. C.

*2. ΑΤΧΛ to l. and r. Ear of barley; raised dotted cable border.

Rev. Same type incuse; incuse border of radiating lines.

Æ. Didr. 8.32 grms. 31 mm. ↑ Cf. B. M. C. *Italy*, 14; Noe, *Metapontum*, Part I, No. 94.

c. 350-300 B. C.

*3. Head of Dionysius l., bound with ivy-wreath.

Rev. ΜΕΤΑ Ear of barley with leaf r.; above leaf short torch with cross pieces at top.

Æ. 3.01 grms. 15.5 mm. → *Ex Martina Franca Hoard* (Noe 661). Cf. B. M. C. *Italy*, p. 264, 202; Berlin, *Beschreibung*, III, p. 369, 229; Sim. to Hirsch XXXIV, Pl. II, No. 51.

***4.** Head of Apollo Carneios (?) l., with ram's horn.

Rev. [M]ETA Ear of barley with leaf r.; above leaf short torch with cross pieces at top.

Æ. 1.62 grms. 12.5 mm. ↖ *Ex* Martina Franca Hoard (Noe 661). Cf. B. M. C. *Italy*, p. 262, No. 185; Berlin, *Beschreibung*, III, p. 370, No. 239; Sim. to Hirsch XXXIV, Pl. II, 49.

SYBARIS

560–510 B. C.

***5.** VM in exergue. Bull standing l.; exergual line, a band of raised dots; dotted cable border.

Rev. Same type as obverse, incuse and reversed; incuse border of dots and exergual line.

Æ. Stater. 8.33 grms. 29 mm. ↑ Cf. B. M. C. *Italy*, 283, 1; Babelon, *Traité*, Pl. LXVII, 5.

VELIA

540–500 B. C.

***6.** Forepart of lion r., r. forepaw extended, holding stag's leg; dotted truncation line.

Rev. Incuse square, with but three quarters distinct; sides of square irregular.

Æ. Drachm. 3.86 grms. 15 mm. ↑ *Ex* Taranto Hoard (Noe 1052). Cf. Babelon, *Traité*, Pl. LXVIII, 5.

BRUTTIUM

CROTON

550–480 B. C.

***7.** ♀ PO Tripod-lebes, the legs ending in lion's feet, with three handles; between legs, two serpents facing each other; raised dotted border between lines.

Rev. Same type incuse, without serpents and inscription; incuse border of oblongs.

Æ. Stater. 8.14 grms. 28.5 mm. ↑ Cf. B. M. C. *Italy*, p. 342, 3; Babelon, *Traité*, Pl. LXIX, 8.

RHEGIUM

c. 203–89 B. C.

*8. Busts of Dioscuri r., in laureate pilei and chlamydes; star above each; border of dots.

Rev. PHΓINΩN Hermes standing l., wearing petasos; in extended r. hand, branch; in l. hand, at side, caduceus; chlamys over l. arm; to l., IIII; cornucopiae below to l.; plain exergual line; border, a lineal circle.

Æ. Tetrans. 3.53 grms. 17 mm. ↖ Cf. McClean Coll., I, 1942, Pl. 61.14.

SICILY

AGRIGENTUM

500–480 B. C.

9. AKRAC ⲁⲓⲣⲁ Eagle, with closed wings, standing l., on line of dots.

Rev. Crab, in circular incuse.

Æ. Tetr. 16.99 grms. 25 mm. → *Ex De Ciccio Sale* (Sambon, Dec. 19, 1907), Pl. II, 77; *ex Merzbacher Sale* (Nov. 15, 1910), Pl. III, 187; *ex R. Ratto Sale* (May 13, 1912), Pl. VII, 366; Cf. B. M. C. *Sicily*, p. 8, 38.

GELA

Before c. 466 B. C.

10. Quadriga of horses r., walking slowly; charioteer holds reins in both hands, whip in r.; above, Nike r., flying to crown horses; dotted exergual line and border.

Rev. ΚΕΛΛΕ Fore-part of man-headed bull swimming r.

Æ. Tetr. 17.38 grms. 25 mm. ↓ *Ex* Distinguished Artist Sale (Sotheby, Wilkinson & Hodge, July 11, 1899), No. 35; Cf. B. M. C. *Sicily*, p. 66, 5; Babelon, *Traité*, Pl. LXXVII, 13.

*11. Naked horseman wearing helmet and holding lance in r. hand; holding reins in l. hand.

Rev. ΚΕΛΛΕ Fore-part of man-headed bull r.

Æ. Didr. 8.35 grms. 19 mm. ↗ Cf. B. M. C. *Sicily*, p. 67, 17; Babelon, *Traité*, Pl. LXXVII, 14.

SYRACUSE

474—c. 450 B. C.

*12. Quadriga of horses walking r., charioteer holding reins in l. hand, whip in r.; above, Nike flying r. to crown horses; plain exergual line; in exergue, pistris r.

Rev. ΣΥΡΑΚΟΣΙΟΝ Head of Arethusa r., wearing pearled diadem, circular earring with pendant and necklace of beads; around, four dolphins.

Æ. Tetr. 17.29 grms. 26 mm. ↑ Cf. Boehringer, *Münzen von Syrakus*, Pl. 19, R 366 and Pl. 20, V 274. A die-combination not recorded by Boehringer.

306—289 B. C.

13. ΣΩΤΕΙΡΑ Bust of Artemis r., wearing earring and necklace; hair in knot behind; quiver over r. shoulder; border of dots.

Rev. ΑΓΑΘΟΚΛΕΟΣ ΒΑΣΙΛΕΟΣ Winged thunderbolt; plain border.

Æ. 9.62 grms. 22 mm. ↖ Cf. B. M. C. *Sicily*, p. 199, 422; Head, *Coins of Syracuse* (Num. Chron., 1874), Pl. IX, 13.

275-216 B. C.

14. Head of Hiero I., wearing diadem.

Rev. IEPΩNOΣ in exergue. Horseman r., wearing helmet, cuirass and chlamys, holding spear in r. hand; horse prancing; beneath horse, plain exergual line.

Æ. 17.32 grms. 26 mm. ✓ Cf. B. M. C. *Sicily*, p. 217, 585.

344-317 B. C.

15. ZEYΣ EΛE[YΘEPIOΣ] Head of Zeus Eleutherios r., laur.; short hair; plain border.

Rev. [ΣYPAKOΣIΩN] Thunderbolt upright; in r. field, eagle r.

Æ. 14.03 grms. 24.5 mm. ↓ Cf. B. M. C. *Sicily*, p. 189, 313; Head, *Coins of Syracuse*, Pl. VII, 10.

215-212 B. C.

16. Head of Athena I., in crested Corinthian helmet, wearing earring and necklace; aegis tied around throat with snakes; border of dots.

Rev. ΣYPAKOΣIΩN Artemis I., in short chiton and endromides, quiver on shoulder, drawing bow to shoot; at her feet, a hound leaping l.; to l., YA above Σ; plain exergual line; border, a lineal circle.

Æ. Twelve litra. 10.13 grms. 22.5 mm. ↘ *Ex De Ciccio Sale* (Sambon, Dec. 11, 1907), Pl. XVIII, 443; Cf. McClean Coll., 2956, Pl. CVII, 5.

MACEDONIA

PHILIP II

359-336 B. C.

***17.** Head of Apollo, laureate, r.; berries in wreath.

Rev. [ΦI]ΛIΠΠOY Biga galloping r., charioteer hold-

ing reins in l. hand, and whip above horses' heads in r. hand; below raised forelegs, grain of barley; exergual line.

Λ. Stater. Amphipolis or Pella. 13.60 grms. 17 mm. ↘ Cf. Reichmann Sale XXX, Pl. XVII, 436.

ALEXANDER III, 336–323 B. C.

328–327 B. C.

18–19. Head of young Heracles r., in lion's-skin; border of dots.

Rev. ΑΛΕΞΑΝΔΡΟΥ Zeus seated l. on throne without back, lower part of body draped; r. leg visible in front of l.; on extended r. hand, eagle r., wings closed; in l. field, a herm; border of dots.

Α. Tetr. Amphipolis. 17.20 & 17.22 grms. 30 mm. & 27 mm. ↙ & ↗ Ex Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. V, 10; Newell, *Alexander Hoards II. Demanhur*, p. 29, 716.

c. 326 B. C.

20. Similar.

Rev. Similar. In l. field, Athena Promachos.

Α. Tetr. Amphipolis. 17.19 grms. 24 mm. ↙ Ex Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. VIII, 3; Newell, *Demanhur*, p. 29, 967.

c. 325 B. C.

21. Similar.

Rev. ΑΛΕΞΑΝΔΡΟΥ ΒΑΣΙΛΕΥΣ Similar; in l. field, cornucopiae.

Α. Tetr. Amphipolis. 17.23 grms. 28 mm. ↓ Ex Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. IX, 9; Newell, *Demanhur*, p. 30, 1043.

22. Similar.

Rev. ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ Similar; in l. field, Athena Promachus.

Α. Tetr. Amphipolis. 17.41 grms. 28 mm. ↑ *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. IX, 4; Newell, *Demanhur*, p. 30, 1100.

324-323 B. C.

23. Similar.

Rev. Similar; in l. field, an antler.

Α. Tetr. Amphipolis. 17.20 grms. 25 mm. ↑ *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. X, 7; Newell, *Demanhur*, p. 30, 1210.

24. Similar.

Rev. Similar; in l. field, Macedonian helmet.

Α. Tetr. Amphipolis. 17.20 grms. 27 mm. → *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. X, 5; Newell, *Demanhur*, p. 30, 1251.

322-321 B. C.

25. Similar.

Rev. Similar; in l. field, ☐

Α. Tetr. Amphipolis. 17.23 grms. 27 mm. ↙ *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. XII, 8, 10; Newell, *Demanhur*, p. 31, 1512.

***26-27. Similar.**

Rev. ΑΛΕΞΑΝΔΡΟΥ Similar, except that feet of Zeus are on a foot-stool; in l. field, Artemis; below throne ♂

Α. Tetr. Lampsacus. 17.19 & 17.24 grms. 27 & 26 mm. ↗ → *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. XVII, 8; Newell, *Demanhur*, p. 36, 1689.

c. 333-320 B. C.

28. Similar.

Rev. Similar; in l. field, ♂; under throne, thunder-bolt.

⌕. Tetr. Miletus. 17.20 grms. 26 mm. ↑ *Ex*
 Demanhur Hoard. Cf. Newell, *Demanhur*, p. 37, 1751,
 Pl. IV, 3.

c. 330–320 B. C.

29. Similar.

Rev. Similar; in l. field, ear of barley.

⌕. Tetr. Miletus. 17.16 grms. 27 mm. ↗ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl.
 XVIII, 9; Newell, *Demanhur*, p. 37, 1755.

*30. Similar.

Rev. Similar, except that feet of Zeus are on foot-
 stool.

⌕. Tetr. Miletus. 17.16 grms. 28 mm. ↗ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl.
 XVIII, 9 var.; Newell, *Demanhur*, p. 37, 1755.

*31. Similar.

Rev. Similar; in l. field, ⌕

⌕. Tetr. Miletus. 17.15 grms. 28 mm. ↗ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl.
 XVIII, 12; Newell, *Demanhur*, p. 37, 1794.

323–319 B. C.

32. Similar.

Rev. Similar, except that feet of Zeus on foot-stool;
 in l. field, a plow; below throne, ☉

⌕. Tetr. Tarsus. 17.13 grms. 29 mm. ↙ *Ex*
 Demanhur Hoard. Cf. Newell, *Tarsos under Alexander*,
 Pl. V, 15 (this piece); Newell, *Demanhur*, p. 41, 2334.

33. Similar.

Rev. ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ Similar, except
 that feet of Zeus on foot-stool; in l. field, Nike holding
 wreath in upraised hands; below throne, ⌕

⌕. Tetr. Tarsus. 17.16 grms. 28 mm. ↖ *Ex*
 Demanhur Hoard. Cf. Newell, *Tarsos*, Pl. VII, 2
 (this piece); Newell, *Demanhur*, p. 41, 2370.

34. Similar.

Rev. Same as 33, except under throne, ⚡

⌘. Tetr. Tarsus. 17.21 grms. 29 mm. ↘ *Ex* Demanhur Hoard. Cf. Newell, *Tarsos*, Pl. VII, 4 (this coin).

***35. Similar.**

Rev. Same as 33, except under throne ⚡

⌘. Tetr. Tarsus. 17.08 grms. 30 mm. ↘ *Ex* Demanhur Hoard. Cf. Newell, *Tarsos*, Pl. VII, 7 (this piece); Newell, *Demanhur*, p. 41, 2388.

36. Similar.

Rev. Same as 33, except under throne ⚡

⌘. Tetr. Tarsus. 17.18 grms. 31 mm. ↘ *Ex* Demanhur Hoard. Cf. Newell, *Tarsos*, Pl. VII, 8 (this piece).

37. Similar, except below head B.

Rev. Same as 33, except in l. field, Nike with wreath above B and caduceus; below throne E

⌘. Tetr. Tarsus. 17.17 grms. 28 mm. ↗ *Ex* Demanhur Hoard. Cf. Newell, *Tarsos*, Pl. VIII, 9 (this piece); Newell, *Demanhur*, p. 41, 2418.

*To c. 319 B. C.***38. Similar.**

Rev. ΑΛΕΞΑΝΔΡΟΥ Similar to 33, except in l. field, ram; below throne Δ·Α.

⌘. Tetr. Damascus. 17.22 grms. 25.5 mm. ↘ *Ex* Demanhur Hoard. Cf. Newell, *Demanhur*, p. 49, 2976.

***39. Similar.**

Rev. Similar to 38, except below throne Δ·Α.

⌘. Tetr. 17.23 grms. 26 mm. Damascus. ↘ *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. 25, 2; Newell, *Demanhur*, p. 49, 3051.

c. 320 B. C. and later.

***40.** Head of youthful Heracles r., in lion's-skin; NIKOKΛEOYΣ inscribed in minute letters on right-hand row of locks of lion's mane; border of dots.

Rev. [A]ΛEEANΔPOY BΑΣIAEQΣ (sic!) Similar to 33, except in l. field Φ ; below throne, laurel sprig.

\mathcal{R} . Tetr. Paphos. 17.22 grms. 25 mm. \downarrow *Ex* Demanhur Hoard. Cf. Newell, *Demanhur*, p. 44, 2675 and p. 108; Newell, *Num. Chron.*, 1919, pp. 64–65.

After 320 B. C. and later.

***41.** Head of youthful Heracles r., in lion's-skin.

Rev. [AΛ]EEANΔPOY Similar to 18, except in l. field, prow.

\mathcal{R} . Tetr. Amathus. 17.15 grms. 26 mm. \searrow *Ex* Demanhur Hoard. Cf. Newell, *Demanhur*, p. 45, 2684.

c. 328–c. 319 B. C.

42. Similar.

Rev. AΛEEANΔPOY BΑΣIAEQΣ Similar to 18, except in l. field, Λ; below throne, Φ

\mathcal{R} . Tetr. Aradus. 17.17 grms. 27.5 mm. \swarrow *Ex* Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. XXII, 9–10; Newell, *Demanhur*, p. 51, 3380.

321 B. C.

43. Similar.

Rev. AΛEEANΔPOY Similar to 18, except in l. field Ξ .

\mathcal{R} . Tetr. Ake. 17.05 grms. 27 mm. \nwarrow *Ex* Demanhur Hoard. Cf. Newell, *Sidon and Ake*, p. 44, 22, Pl. VI, 23; Newell, *Demanhur*, p. 56, 3954.

c. 329–326 B. C.

44. Similar.

Rev. Similar to 43, except in l. field δ ; below throne \mathcal{M} and M.

Æ. Tetr. Babylon. 17.18 grms. 27 mm. ↗ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl.
 XXVII, 5; Newell, *Demanhur*, p. 59, 4223.

c. 326-324 B. C.

45. Similar.

Rev. Similar to 43, except in l. field, trident and M;
 below throne ☸

Æ. Tetr. Babylon. 17.21 grms. 26 mm. ↗ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. 28,
 11; Newell, *Demanhur*, p. 61, 4421.

46. Similar.

Rev. Similar to 43, except in l. field, rose; below
 throne ΔIo

Æ. Tetr. Alexandria. 17.21 grms. 27 mm. ↖ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. 30, 3;
 Newell, *Demanhur*, p. 64, 4614.

47. Similar to 46. 17.18 grms. 28 mm. ↖ *Ex* De-
 manhur Hoard.

48. Similar to 46. 17.24 grms. 26.5 mm. ↖ *Ex*
 Demanhur Hoard.

49. Similar to 46. 17.19 grms. 27 mm. ↖ *Ex*
 Demanhur Hoard.

50. Similar.

Rev. Similar to 43, except in l. field, khnum; below
 throne, Δ

Æ. Tetr. Alexandria. 17.19 grms. 28 mm. ↖ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. 29,
 12; Newell, *Demanhur*, p. 64, 4748.

*51. Similar.

Rev. Similar to 33, except in l. field, thunderbolt;
 below throne, ΔI

Æ. Tetr. Alexandria. 17.24 grms. 27.5 mm. ↑ *Ex*
 Demanhur Hoard. Cf. Newell, *Reattribution*, Pl. 29, 11;
 Newell, *Demanhur*, p. 64, 4781.

52. Similar to 51. 17.20 grms. 27 mm. ↖ *Ex*
Demanhur Hoard.

THRACE

LYSIMACHUS

323–281 B. C.

53. Head of deified Alexander, diademed, with horn
of Ammon; border of dots.

Rev. Pallas Nikephorus seated l.; to l., a flower.
ΛΥΣΙΜΑΧΟΥ ΒΑΣΙΛΕΩΣ

⌘. Tetr. Hellespontine city. 16.58 grms. 30 mm.
↑ *Ex* Sotheby, Wilkinson & Hodge Sale (American
Collector [Hobart Smith]) Apr. 20, 1909, Pl. III, 84;
Cf. Müller 331 (Traelium).

EUROPEAN COAST OF PROPONTIS

BYZANTIUM

Faustina Jr.

***54.** ΦΛΥΚΤΕΙΝΑ CEBACTH Bust of Faustina
r., draped, hair elaborately waved and coiled at back of
head.

Rev. ΕΠΙ ΛΙΑ CEYHPOV BYZANTIΩΝ Dolphin
r. between two tunny fish.

⌘. 10.63 grms. Magistrate's name, Aelius Severus;
cf. Pick, *Num. Zeit.*, XXVII (1895) p. 33, No. 7 & p.
37; cf. also Mionnet, *Suppl.*, II, p. 250, No. 279.

THESSALY

THESSALIAN CONFEDERACY

196–146 B. C.

55. Head of Zeus, r., crowned with oak.

Rev. ΘΕΣΣΑ ΛΩΝ Athena Itonia advancing r.,
spear in raised r. hand, shield on l. arm; at r., ⌘; above,
ΑΜΥΝ ΑΝΔΡΟΥ; below, [Ε]ΕΝΟΦΑΝΤΟ[Υ]

⌘. Double Victoriatus. 7.13 grms. 22 mm. ↑

BOEOTIA

THEBES

395-387 B. C.

56. Boeotian shield.

Rev. Amphora, upper part of which is fluted; in circular incuse; ☉ and bow to l., [E] to r.

⌘. Stater. 11.88 grms. 11 mm. ← Cf. B. M. C., *Central Greece*, Pl. XIV, 3.

ATTICA

ATHENS

490-c. 400 B. C.

*57. Head of Athena r., in crested Athenian helmet, eye facing; hair arranged in double bandeau over forehead and temple and gathered up behind neck under helmet; circular earring; three olive leaves on helmet; floral ornament at back of helmet.

Rev. A☉E Owl r., head facing; in field, to l., crescent and olive branch with two leaves and a berry; all in incuse square.

⌘. Tetr. 17.13 grms. 25 mm. ↗ Similar to Pozzi Coll. (Neville Sale I) Pl. XLVIII, 1541.

393-338 B. C.

58. Head of Athena r., eye in profile, wearing large round earring and crested helmet with three upright olive leaves and a floral scroll at back.

Rev. A☉E Owl r., head facing, to l., olive branch and crescent.

⌘. Tetr. 17.21 grms. 25 mm. ← Cf. Babelon, *Traité*, Pl. CXC, 2.

CORINTH

338–300 B. C.

***59.** Pegasus with pointed wing, flying l.; below, ♀*Rev.* Head of Athena l., wearing over leather cap Corinthian helmet bound with olive-wreath; in field beneath, A P; to r., gorgon's mask on aegis.Æ. Stater. 8.55 grms. 24 mm. ↓ Cf. B. M. C., *Corinth*, Pl. XII, 4.

CORINTH AS ROMAN COLONY

Duoviri: L. Certus Aeficius and C. Julius

c. 46–44 B. C.

***60.** LAVS IVLI CORN (INT) Head of Julius Caesar, laureate, r.*Rev.* [L] CERTO ÆFICIO, above; CIVLIO IIVIR, below. Bellerophon, wearing petasos, on Pegasus r., striking downward with spear.Æ. 11.95 grms. Cf. B. M. C., *Corinth*, Pl. XV, 2; Fox, *Jour. Internat. Num. Arch.*, No. 1; Edwards, *Corinth*, Pl. I, 16.

TROAS

ABYDUS

320–280 B. C.

***61.** Head of Apollo r., laureate.*Rev.* ABY Eagle standing r.; behind, [Y]ΑΛΙΠΠΙΟΣ; in r. field, a bee.Tetrobol. 2.61 grms. 14 mm. ↘ Cf. B. M. C., *Troas*, p. 3, No. 22; Weber Coll., III¹, Pl. CXCI, 5262.

CARIA

Cos

300-190 B. C.

***62.** Head of young Heracles in lion's-skin, r.*Rev.* ΚΩΙ[ON] Crab, beneath which, a club and magistrate's name ΠΥΠΠΙ.Æ. .94 grms. 11 mm. ↗ Cf. Weber Coll., III², Pl. 235, 6643.

SYRIA

ALEXANDER I

150-145 B. C.

***63.** Diademed head of Alexander r., chlamys around neck, border of dots.*Rev.* Eagle standing l. on beak of galley, palm branch over r. shoulder; in r. field ΓΞΡ and ΠΡ; in l. field, club surmounted by monogram of Tyre; border of dots.Æ. Tetr. Tyre. 149-148 B. C. 13.24 grms. 27 mm.
↑ Cf. Rogers, *Second and Third Seleucid Coinages of Tyre*, Pl. I, 3; Newell, *Seleucid Coinages of Tyre*, No. 58.

ANTIOCHUS VIII

*Fourth Reign, 108-96 B. C.****64.** Diademed head of Antiochus, r.; fillet border.*Rev.* [B]ΑΣΙΑΕΩΣ ANTIOXOY [E]ΠΙΦΑΝΟΥΣ Zeus, legs draped, seated l., holding wreath-bearing Nike, r., in outstretched r. hand, rests l. on sceptre; whole surrounded by laurel wreath; on l., outside inscription, Π and Α; beneath throne Γ.Æ. Tetr. Antioch. 16.50 grms. 28 mm. ↑ Sim. to Newell, *Seleucid Mint of Antioch*, Nos. 405-408 (which lack Γ under throne).

JUDAEA

FIRST REVOLT, 66–70 A. D.

Year 2 (67–68 A. D.)

***65.** זפֿגװאַזפֿגװ Chalice with knob on stem and pearly rim; above it, date.

Rev. פֿװן פֿלװן פֿלװן Stem with three flowers; border of dots.

Æ. Shekel. 14.10 grms. 23 mm. ↖ Cf. B. M. C., *Palestine*, Pl. XXX, 3.

CYRENAICA

PTOLEMY V

203–181 B. C.

***66.** Ram standing r.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΥΣ Eagle l. on thunderbolt, wings closed; to l., ✕.

Æ. 4.61 grms. 13 mm. ↖ Cf. Svoronos, Pl. XL, 24, 25; B. M. C., *Cyrenaica*, Pl. XXXII, 20.

EGYPT

PTOLEMY I

323–285 B. C.

***67.** Head of Alexander the Great r., with horn of Zeus Ammon, wearing elephant skin tied below into aegis, of which snake is visible; crescent-shaped punch-mark on cheek.

Rev. ΑΛΕΞΑΝΔΡΟΥ Zeus Aetophorus seated l. on throne; lower part of body draped; l. hand resting on sceptre; eagle r., with closed wings on outstretched r. hand; to l., a thunderbolt; below throne, Π; border of dots.

℞. Tetr. 15.29 grms. 27 mm. ↖ Cf. Svoronos, Pl. I, 15.

68. Head of Alexander the Great r., with horn of Zeus Ammon, wearing elephant skin and aegis.

Rev. Similar; in front, an eagle l.; below throne Δ

℞. Tetr. 15.39 grms. 27 mm. ↑ Cf. Svoronos, Pl. II, 6.

*69. Head of Alexander the Great, r., with horn of Zeus Ammon, wearing elephant skin and aegis.

Rev. ΑΛΕΞΑΝΔΡΟΥ Athena Promachus r., holding shield in front and hurling javelin; ends of chlamys falling over both arms; at r. below, eagle r. on thunderbolt; ℳ to l.; ℥ to r.; dotted border.

℞. Tetr. 15.65 grms. 29 mm. ↗ Ex Sotheby, Wilkinson & Hodge (Distinguished Artist) 1899, Pl. III, 120; Ex Benson Coll. (Sotheby, Feb. 3, 1909), Pl. XXV, 780. Cf. Svoronos, Pl. V, 17; B. M. C., *Ptolemies*, Pl. I, 8.

70. Similar. Punch-mark on cheek.

Rev. Similar. To r., helmet and ℔

℞. Tetr. 15.63 grms. 27.5 mm. ↖ Cf. Svoronos, Pl. VI, 3.

71. Similar.

Rev. Similar. To r., helmet and ΔI.

℞. Tetr. 15.82 grms. 27 mm. ↑ Cf. Svoronos, Pl. VI, 8.

*72. Head of Ptolemy I, r., diademed and wearing aegis; border of dots.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΥΣ Eagle standing l. on thunderbolt; to l., P and ✕

℞. Tetr. 14.07 grms. 29 mm. ↑ Cf. Svoronos, Pl. IX, 16.

73. Similar.

Rev. Similar. To l., Φ and ✕

⌚. Tetr. 14.73 grms. 27 mm. ↖ Cf. Svoronos, No. 268.

74. Head of Zeus, r.; dotted border.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΥΣ Eagle l. on thunderbolt, wings open; to l., ⌚ and Ω.

⌚. 16.60 grms. 27 mm. ↑ Cf. Svoronos, Pl. X, 11-16; B. M. C., *Ptolemies*, Pl. III, 3.

75. Head of Alexander the Great r., with horn of Ammon, diademed, hair long.

Rev. [ΠΤΟΛΕ]ΜΑΙΟΥ [ΒΑΣΙΛΕΥΣ] Eagle l. on thunderbolt, wings open; to l., akrostolion above helmet.

⌚. 2.49 grms. 17 mm. ↑ Cf. Svoronos, Pl. VI, 16, 17; B. M. C., *Ptolemies*, Pl. II, 1.

PTOLEMY II

285-246 B. C.

76. Head of Ptolemy I, wearing aegis; border of dots.

Rev. [ΠΤΟΛΕ]ΜΑΙΟΥ ΒΑΣΙΛΕΥΣ Eagle l. on thunderbolt; in l. field, ⌚ and shield; to r. ⬆

⌚. Tetr. 14.22 grms. 26 mm. ↖ Cf. Svoronos, Pl. XIV, 6.

77. Head of Zeus Ammon r., diademed, with horn; dotted border.

Rev. ΒΑΣΙΛΕΥΣ ΠΤΟΛΕΜΑΙΟΥ Eagle l. on thunderbolt, wings open, looking back; between legs, ☉.

⌚. 84.90 grms. 47 mm. ↑ Cf. Svoronos, Pl. XVII, 3; B. M. C., *Ptolemies*, p. 37, 157.

78. Head of Alexander the Great, with horn of Ammon, clad in elephant's skin and aegis; dotted border.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΥΣ Eagle l. on thunderbolt, wings open; between eagle's legs, E; dotted border.

⌚. 7.25 grms. 22 mm. ↖ Cf. Svoronos, Pl. XVII, 17; B. M. C., *Ptolemies*, p. 57, 114.

ARSINOE II

(Under Ptolemy II)

***79.** Head of Arsinoe r., with horn of Zeus Ammon, wearing diadem, stephane and veil; behind head, K.

Rev. ΑΡΣΙΝΟΗΣ ΦΙΛΑΔΕΛΦΟΥ Double cornucopiae, bound with fillet.

N. Octodr. 261 B. C. 27.78 grms. 27 mm. ↑ Cf. Svoronos, Pl. XV, 14.

80. Similar; to l., T.

Rev. Similar.

N. Decadr. 252 B. C. 34.27 grms. 35 mm. ↑ Cf. Svoronos, Pl. XVI, 8.

81. Similar; to l. B.

Rev. Similar; between legs of eagle, X.

N. Tetr. 269 B. C. 23.30 grms. 26 mm. ↑ Cf. Svoronos, Pl. XVI, 14.

PTOLEMY III

246-221 B. C.

***82.** ΑΔΕΛΦΩΝ Jugate busts r., of Ptolemy II, diademed and wearing chlamys, and Arsinoe II, diademed and veiled; to l., shield bearing thunderbolt as parasemon.

Rev. ΘΕΩΝ Jugate busts r., of Ptolemy I, diademed and draped, and Berenice I, diademed and veiled.

N. Tetr. 13.92 grms. 21.5 mm. ↑ Cf. Svoronos, Pl. XIV, 20.

***83.** Head of Ptolemy I, r., diademed, wearing aegis; dotted border.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΣΩΤΗΡΟΣ Eagle standing l. on thunderbolt; to l., cornucopiae.

N. Tetr. 14.21 grms. 29.5 mm. ↑ Cf. Svoronos, Pl. XXX, 9.

84-85. Head of Zeus Ammon r., wearing diadem and horn; dotted border.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Similar; between legs, ♀

Æ. 69.16 & 68.72 grms. 43 mm. ↑ Cf. Svoronos, Pl. XXIX, 19; B. M. C., *Ptolemies*, p. 55, 87.

86. Bust of Zeus r., laureate.

Rev. Eagle l. on thunderbolt, wings open; in front cornucopiae; between eagle's legs, Ε

Æ. 12.44 grms. 26 mm. ↖ Cf. Svoronos, Pl. XXIX, 13; B. M. C., *Ptolemies*, Pl. IX, 7.

87. Similar to 84.

Rev. [ΠΤΟ]ΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt, wings closed, cornucopiae resting on eagle's l. wing; between legs ♀.

Æ. 5.22 grms. 15 mm. ↑ Cf. Svoronos, Pl. XXIX, 23; B. M. C., *Ptolemies*, p. 55, 95.

ARSINOE II

(Under Ptolemy III)

88. Head of Arsinoe II, r., with horn of Zeus Ammon, wearing diadem, stephane, and veil; behind head, sceptre; to l., KK.

Rev. ΑΡΣΙΝΟΗΣ ΦΙΛΑΔΕΛΦΟΥ Double cornucopiae, bound with fillet.

Æ. Decadr. 237 B. C. 35.53 grms. 33 mm. ↖ Cf. Svoronos, Pl. XXVIII, 10.

PTOLEMY IV

221-203 B. C.

89. Jugate busts of Serapis r., wearing laurel-wreath above which small cap of Osiris, and Isis, wearing corn-wreath above which globe and horns.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt, looking back; on right wing, double cornucopiae bound with fillet; between legs, ΔΙ

Æ. Tetr. 12.05 grms. 27 mm. ↖ Cf. Svoronos, Pl. XXXVI, 13; B. M. C., *Ptolemies*, Pl. XVIII, 8.

*90. Head of Ptolemy I, r., diademed and wearing aegis; dotted border.

Rev. Same inscription. Eagle standing l. on thunderbolt; on thunderbolt Ρ

Æ. Didr. 106 B. C. 7.05 grms. 21 mm. ↗ Cf. Svoronos, Pl. XXXVIII, 12.

91. Head of Zeus Ammon, r., diademed, with horn. Dotted border.

Rev. Same inscription. Eagle l. on thunderbolt, wings open; on l. wing, cornucopiae; between legs, Λ

Æ. 29.06 grms. 37 mm. ↑ Cf. Svoronos, Pl. XXXIX, 17; B. M. C., *Ptolemies*, Pl. XV, 5.

PTOLEMY VI

180-145 B. C.

92. ΒΑΣΙΛΙΣΣΗΣ ΚΛΕΟΠΑΤΡΑΣ Head of Zeus Ammon r., diademed.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Two eagles l. on thunderbolt; in front, double cornucopiae; between legs of r. eagle, [Ρ]

Æ. 25.40 grms. 30 mm. ↖ Cf. Svoronos, Pl. XLVII, 9; B. M. C., *Ptolemies*, Pl. XXVI, 7.

93. Head of Zeus Ammon r.; dotted border.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Two eagles l. on thunderbolt; to l., double cornucopiae.

Æ. 23.63 grms. 30 mm. ↖ Cf. Svoronos, Pl. XLVIII, 10.

94. Head of bearded Heracles r., wearing lion's skin.

Rev. Eagle l. on thunderbolt, looking back; across r. wing, caduceus; between legs, Κ

Æ. 12.83 grms. 24 mm. ↖ Cf. B. M. C., *Ptolemies*, Pl. XVI, 10.

95. Similar.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt.

Æ. 12.20 grms. 24 mm. ↖ Cf. Svoronos, Pl. LI, 14.

96. Head of Cleopatra I as Isis, r., with long curls bound with corn.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt, wings open.

Æ. 16.18 grms. 27 mm. ↖ Cf. Svoronos, Pl. XL, 11; B. M. C., *Ptolemies*, Pl. XXII, 6.

97. ΒΑΣΙΛΙΣ[ΣΗΣ Κ]ΛΕΟΠΑΤΡΑΣ Similar.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt, looking back; on l. wing cornucopiae bound with fillet; to l., ♀. Dotted border.

Æ. 4.13 grms. 17 mm. ↖ Cf. Svoronos, Pl. XLVII, 15; B. M. C., *Ptolemies*, Pl. XVIII, 7.

98. ΒΑΣΙΛΙΣΣΗΣ ΚΛΕΟΠΑΤΡΑΣ Head of Cleopatra I, r., clad in elephant's skin.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Same, but to l., ♀. Dotted border.

Æ. 7.40 grms. 21 mm. ↖ Cf. Svoronos, Pl. XLVII, 13; B. M. C., *Ptolemies*, Pl. XXIII, 3.

PTOLEMY XIII

First Reign, 80–58 B. C.

99. Head of Ptolemy I, r., diademed and wearing aegis.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt; to l., LB; to r., ΠΑ

Æ. Tetr. 80–79 B. C. 14.45 grms. 25 mm. ↑ Cf. Svoronos, Pl. LXII, 2.

Second Reign, 55-51 B. C.

100. Similar.

Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Eagle l. on thunderbolt; under r. wing, palm; to l., Λ ΚΘ and Ψ; to r., ΠΑ.

Æ. Tetr. 52 B. C. 13.79 grms. 26 mm. ↑ Cf. Svoronos, Pl. LXI, 24.

ALEXANDRIA

ANTONINUS PIUS

*101. ΑΝΤΩΝΙΝΟC ΕΥ CΕΒ ΑΥΤ Κ Τ ΑΙΑ ΑΔΠΙ Head r., bare.

Rev. Bust of Sarapis r., crowned with modius, above human foot; to r., ☿

Æ. Drachm. Year 3 (139-40 A. D.)

The significance of the unusual reverse type of the Sarapis bust over the model of a human foot is unknown. Undoubtedly, it refers to some feature of the Sarapis cult in Alexandria, most likely to votives to Sarapis as a god of healing. This specimen has added interest because of its date, year 3 of Antoninus Pius. The type is mentioned by Milne (*Ashmolean*, p. xxix) as being of the last year of Antoninus Pius and recurring under M. Aurelius and Commodus. Vogt (*Die Alexandrinische Münzen*) also gives its earliest appearance to Year 24 of Antoninus Pius. B. M. C. *Alexandria* has two pieces for Pius (Nos. 1209-10, Pl. XIV) of Year 24, both of smaller size than our piece. However, Mionnet (VI, p. 214, 1431) gives the type for year 3 in the large size, derived from Zoega (*N. Aeg.*, p. 167, No. 44). In no later work does a piece of this type

occur for Antoninus Pius in the large size, or for a date earlier than Year 24. For Marcus Aurelius, Dattari (Nos. 3315-16, Pl. XXII) gives two specimens of 32 and 22 mm. respectively and for Commodus (Nos. 3828, 3938-39) three pieces varying between 21 and 23 mm. The type also occurs on a lead token of Egypt (Dattari, No. 6530, Pl. XXXVII). For a list of occurrences of the Sarapis bust over the human foot in sculpture, on gems, etc., see Weinrich in *Athenische Mitteilungen*, 37 (1912), p. 37, note 3. The human foot alone is used elsewhere as a type on coins: at Ptolemais-Ace under Valerian and Salonina (B. M. C. *Phoenicia*, Nos. 47, 51-53, Pl. XVII, 11); at Aegaea in Cilicia under Severus Alexander (B. M. C. *Lycaonia*, etc., 37, Pl. V, 1); and at Isinda in Pisidia (Babelon, *Inventaire Waddington*, No. 3751, Pl. VIII, 20).

***102. ANTΩNINOC [EVC EB AVT K T] AIA AΔP** Bust r., laureate, draped and cuirassed from behind.

Rev. Herakles, in garden of Hesperides, advancing, with lion's skin on back, r. hand outstretched, club in l., towards tree on which hangs serpent with arrow through neck; to l., $\begin{smallmatrix} L \\ e \end{smallmatrix}$

Æ. Drachm. Year 5 (141-42 A. D.) The earliest year listed for this type for Antoninus Pius by Milne, Dattari, and B. M. C. is year 10.

LUCIUS VERUS

***103. OYHPOC C[Ε]Α AVRHAIOC** Bust l., laureate, draped and cuirassed from behind.

Rev. Verus and M. Aurelius standing with joined r. hands; to l., L; to r., Γ

Tetr. Year 3 (162-63 A. D.) Dattari 3642 var.

FAUSTINA, wife of M. Aurelius

***104.** CEBACTH ΦAVCTINA Bust r., draped.

Rev. Antoninus Pius standing in quadriga to r. Above, L; in exergue, K.

Tetr. Year 20 (179–80 A. D.) Milne 2324 var.

AURELIAN

***105.** A K Λ ΔOM AYPHAIANOC CEB Bust r., laureate, and draped; to r., LA

Rev. I A C OYABAAAΘOC AΘHNYACP Bust of Vaballathus r., laureate and diademed, draped and cuirassed.

Tetr. Year 1 (270 A. D.) Dattari 5428 var.; Milne 4322 var.

***106.** AVT K Λ Δ AVPHAI ANOC CEB Bust r., laureate, draped and cuirassed from behind.

Rev. Jugate busts of Nilus and Euthenia l.; Nilus crowned with lotus buds, himation on l. shoulder, cornucopiae behind; Euthenia crowned with grain. To l., Λ

Tetr. Year 4 (272–73 A. D.) Dattari —; Milne —.

ZENOBIA

***107.** Bust of Zenobia, diademed, r. CEITIM ZHNOBIA CEB

Rev. Homonoia standing l., raising r. hand and holding cornucopiae in l. hand. E

Tetr. Year 5 (270–71 A. D.) Dattari 5512 var.

MAXIMIAN

***108.** MAEIMIANOC CEB Bust r., laureate, draped and cuirassed.

Rev. Alexandria standing l., wearing close-fitting cap surmounted by three turrets, holding out on r. hand

bust of Sarapis facing towards her, resting l. on sceptre.
To l., L; to r., H; in exergue, A.

Tetr. Year 8 (292–93 A. D.) Dattari —; Milne —.

CONSTANTIUS

***109.** ΦΛΑ ΚΩΝCΤΑΝΤΙΟC Κ Bust r., laureate, draped and cuirassed.

Rev. Emperor (Diocletian), laureate, wearing cuirass and cloak, r. hand raised, holding in l. a short sceptre, on walking horse. To l., above, L; to r., Γ.

Tetr. Year 3 (294–95 A. D.) Dattari —; Milne —.

LEAD TOKEN

***110.** Bust of Demeter (?) r., wearing modius and veil; behind head, a torch; in front, branch of grain; to l., above, a crescent; to r., above, a star.

Rev. Jugate busts r. of Sarapis wearing modius and Hermanubis wearing modius; to r., a palm branch (?).

ROME—REPUBLIC

LUCIUS AEMILIUS BUCA

c. 44 B. C.

***111.** Head of Julius Caesar, laureate r. Before head, CAESAR · DICT; behind, PERPETVO.

Rev. Winged caduceus and fasces in saltire; in angles, celestial globe, two r. hands joined, axe, and L. BVCA

Æ. Den. Rome. 3.69 grms. B. M. C., *Republic*, p. 546, 4157, Pl. LIV, 11; Babelon I, p. 124, 17; C. 25 (Jul. Caesar).

QUINTUS NASIDIUS

c. 38–36 B. C.

***112.** NEPTVNI Head of Pompey the Great, bare r.; in front, a trident; below, a dolphin.

Rev. [Q-NASI] DIVS Galley with rowers, sailing r., with pilot standing on prow and steersman seated in stern; to l., above, six-pointed star.

Æ. Den. Sicily. 3.55 grms. Ex Naville II (Vautier-Collignon), Pl. I, No. 8; Naville XII (Bissen), Pl. 75, No. 2713. B. M. C., *Republic*, II, p. 564, 21, Pl. CXX, 16. Babelon II, p. 252, 1; C. 20 (Pompey).

ROME—EMPIRE

AUGUSTUS

27 B. C.—14 A. D.

*113. CAESAR AVGVSTVS Head of Augustus, bare, r.

Rev. OB CIVIS SERVATOS in three lines in oak wreath.

Æ. Den. Uncertain Spanish mint (Colonia Patricia?). 19–16 or 15 B. C. 3.82 grms. B. M. C. *Empire*, I, p. 66, 378, Pl. 8, 7; M. & S., I, p. 86, 290; C. 208.

CALIGULA

37–41 A. D.

*114. C·CAESAR·AVG·GERM·P·M TR·P[OT] Head r., bare.

Rev. AGRIPPINA MAT·C CAES·AUG GERM Bust of Agrippina, draped r.

Æ. Den. Lugdunum. 37–38 A. D. 3.54 grms. B. M. C., *Empire*, p. 147, 8, Pl. 29, 8; M. & S. I, p. 116, 17; C. 4.

CLAUDIUS

41–54 A. D.

*115. TI CLAVD CAESAR AV [G GERM P] M TRIB POT PP Head r., laureate.

Rev. AGRIPPINAE AVGVSTA Bust of Agrippina, draped r., wearing crown of corn-ears, from which one long tie hangs down at back.

Æ. Den. Rome. 50–54 A. D. 3.76 grms. B. M. C., *Empire*, p. 175, 75, Pl. 32, 27; M. & S., I, p. 134, 92; C. 4.

NERO

54–68 A. D.

***116.** AGRIPP AVG DIVI CLAVD NERONIS CAES MATER Busts of Nero, head bare, r., and of Agrippina, l., draped with hair in long plait at back, facing.

Rev. EX S C (in oak-wreath) NERONI CLAVD DIVI F CAES AVG GERM IMP TR P (around).

Æ. Den. Rome. 54 A. D. 3.36 grms. B. M. C., *Empire*, I, p. 200, 3, Pl. 38, 3; M. & S., I, p. 145, 9, Pl. IX, 139; C. 7.

***117.** IMP NERO CLAVD CAESAR AVG GERM PM TRP XIII PP Head r., laureate.

Rev. PACE PR TERRA MARIQ PARTA IANVM CLVSIT (around) S C (in field). Temple of Janus, showing r. side and end, with closed doors on l.

Æ. Sest. Rome. 66–67 A. D. 24.95 grms. Ex Be-ment Sale (Naville VIII), Pl. 19, 655. B. M. C., *Empire*, p. 230, 164 ff., Pl. 42, 7; M. & S., I, p. 156, 167; C. 139.

OTHO

69 A. D.

***118.** IMP M OTHO CAESAR AVG TR P Head r., bare.

Rev. SECVRITAS PR Securitas, draped, standing l., holding wreath in r. hand and sceptre in l.

Æ. Den. Rome. 3.53 grms. B. M. C., *Empire*, I, p. 366, 17; M. & S. I, p. 219, 12; C. 17.

HADRIAN

134-138 A. D.

***119.** HADRIANVS AVG COS III PP Bust r., laureate and draped, from behind.

Rev. AEGYPTOS S C Egypt, draped, reclining l., holding sistrum in r. hand, l. arm resting on basket of fruit, to l. ibis standing r. on low column.

Æ. Dupondius or As. Rome. 134-138 A. D. 11.32 grms. B. M. C., *Empire*, III, p. 506, 1703, Pl. 94, 7; M. & S., II, p. 446. 839; Strack Pl. XII, 707, C. 111.

AELIUS

Adopted Son of Hadrian

***120.** L AELIVS CAESAR Head r., bare.

Rev. TR POT COS II (around); PIE TAS (in field, to l. and r.). Pietas standing r. before altar, raising r. hand, l. hand holding box of perfumes.

Æ. Den. Rome. 137 A. D. 3.39 grms. M. & S., II, p. 393, 438; C. 36.

DIDIA CLARA

Daughter of Didius Julianus

***121.** DIDIA CLARA AVG Bust r., draped.

Rev. HILAR TEMPOR Hilaritas standing l., holding long palm and cornucopiae.

Den. Rome. 2.82 grms. M. & S., IV, 1, 10, Pl. I, 19; C. 3.

CLODIUS ALBINUS

193-197 A. D.

***122.** D CLOD SEPT ALBIN CAES Head r., bare.

Rev. FELICITAS COS II Felicitas standing l., holding caduceus and sceptre.

Æ. Den. Rome. 194-5? A. D. 3.17 grms. M. & S., IV, 1, p. 44, 4 var.; C. 15.

SEPTIMIUS SEVERUS

193–211 A. D.

***123.** SEVERVS PIVS AVG Head r., laureate.*Rev.* INDVLGENTIA AVGG IN CARTH Carthage seated on lion raised on hind legs to r.; she holds thunderbolt and sceptre; behind, water coming out of rock.*Æ.* Den. Rome. 202–210 A. D. 3.26 grms. M. & S., IV, 1, 266, Pl. 7, 9; C. 222. *Ex* "Catacombs" Hoard.

JULIA DOMNA

*Wife of Septimius Severus****124.** IVLIA AVGVSTA Bust r., draped.*Rev.* FORTVNAE FELICI Fortuna standing l., holding cornucopiae and leaning on rudder.*Æ.* Den. Rome. 195–211 A. D. 3.52 grms. M. & S., IV, 1, 552, Pl. 9, C. 55. *Ex* "Catacombs" Hoard.

CARACALLA

198–217 A. D.

125.** ANTONINVS PIVS AVG GERM Head r., laureate.*Rev.* PM TRP XVII COS IIII PP Apollo, seated l., holding laurel branch and leaning elbow on lyre which rests on tripod.*Æ.* Den. Rome. 214 A. D. 3.28 grms. M. & S., IV, 1, 238A; C. 242. *Ex* "Catacombs" Hoard.126.** Similar to No. 125.*Rev.* PM TRP XVII COS IIII PP Jupiter, nude, standing l., holding thunderbolt and sceptre; at feet, an eagle.*Æ.* Den. Rome. 214 A. D. 3.47 grms. M. & S., IV, 1, 240; C. 239 (Both have Jupiter naked to waist only). *Ex* "Catacombs" Hoard.

***127. ANTONINVS PIVS AVG GERM** Bust r., radiate, draped and cuirassed.

Rev. PM TR P XVIII COS III PP Sol standing l., raising r. hand and holding globe.

Æ. Ant. Rome. 216 A. D. 4.70 grms. M. & S., IV, 1, 281a; C. 358. *Ex* "Catacombs" Hoard.

***128. M AVREL ANTONINVS PIVS AVG BRIT** Head r., laureate.

Rev. VICT BRIT PM TR P XIII COS III P P SC Victory standing r., l. foot on helmet, erecting trophy; to r., towered woman standing facing and captive seated at her feet.

Æ. Sest. Rome. 211 A. D. 27.38 grms. M. & S., IV, 1, 483a; C. 641. *Ex* Carfrae Sale, Sotheby, Wilkinson & Hodge (July 8, 1901) Pl. VI, 184.

PLAUTILLA

Wife of Caracalla

***129. PLAVTILLAE AVGVSTAE** Bust r., draped.

Rev. CONCORDIAE AETERNAE Caracalla standing l., clasping r. hands with Plautilla standing r.

Æ. Den. Rome. 2.72 grms. M. & S., IV, i. 361; C. 10.

***130. PLAVTILLA AVGVSTA** Bust r., draped.

Rev. VENVS VICTRIX Venus, standing l., holding apple and palm branch and leaning on shield; before her, Cupid holding helmet.

Æ. Den. Rome. 202 A. D. 3.41 grms. M. & S., IV, i, 369; C. 25. *Ex* "Catacombs" Hoard.

GETA

200–202 A. D.

***131. P SEPT GETA CAES PONT** Bust r., head bare, draped.

Rev. NOBILITAS Nobilitas standing r., holding sceptre and palladium.

Æ. Den. Rome. 200–2 A. D. 3.49 grms. M. & S., IV, i, 13a, Pl. 14, 3; C. 90. *Ex* "Catacombs" Hoard.

***132.** P SEPTIMIUS GETA CAES Bust of Geta r., head bare, draped.

Rev. PONTIF COS II Geta standing l., holding globe and parazonium.

Æ. Den. Rome. 209 A. D. 3.43 grms. M. & S., IV, i, 61a; C. 117.

***133.** IMP CAES P SEPT GETA PIVS AVG Head r., laureate.

Rev. PONTIF TR P II COS II Felicitas standing l., holding cornucopiae and caduceus.

Æ. Den. Rome. 210 A. D. 3.36 grms. M. & S., IV, i, 69a; C. 137. *Ex* "Catacombs" Hoard.

MACRINUS

217–18 A. D.

***134.** IMP C M OPEL SEV MACRINVS AVG Bust r., laureate, cuirassed.

Rev. PONTIF MAX TRP COS P P Jupiter, nude, standing l., holding thunderbolt and sceptre.

Æ. Den. Rome. 217 A. D. 3.09 grms. M. & S., IV, 2, p. 6, 15. *Ex* "Catacombs" Hoard.

DIADUMENIANUS

Son of Macrinus

***135.** M OPEL ANT DIADVMEIAN CAES Bust r., head bare, draped.

Rev. PRINC IVVENTVTIS Diadumenianus standing facing, looking r., holding standard and sceptre; at r., two standards.

Æ. Den. Rome. 3.17 grms. M. & S., IV, 2, p. 13, 102; C. 3. *Ex* Martinetti Coll. (A. Sambon Sale, Nov. 18, 1907) No. 2527.

*136. Similar to No. 135.

Æ. Den. Rome. 3.35 grms. *Ex* "Catacombs" Hoard.

ELAGABALUS

218-222 A. D.

*137. IMP ANTONINVS PIVS AVG Bust r., laur., horned and draped.

Rev. INVICTVS SACERDOS AVG Elagabalus, horned, standing l. before altar, holding patera and club; behind altar, reclining bull; in l. field, comet.

Æ. Den. Rome. 4.30 grms. M. & S., IV, 2, p. 34, 88 var.; C. 61 var. *Ex* "Catacombs" Hoard.

*138. IMP ANTONINVS PIVS AVG Bust r., laur. and draped.

Rev. LIBERTAS AVG Libertas standing l., holding cap and sceptre; in r. field, star.

Æ. Den. Rome. 2.65 grms. M. & S., IV, 2, p. 35, 107; C. 92. *Ex* "Catacombs" Hoard.

*139. IMP CAES M AVR ANTONINVS AVG Bust r., radiate, draped and cuirassed.

Rev. SALVS ANTONINI AVG Salus standing r., feeding serpent held on her r. arm.

Æ. Ant. Rome. 4.58 grms. M. & S., IV, 2., p. 37, 138; C. 255. *Ex* "Catacombs" Hoard.

JULIA SOAEMIAS

Mother of Elagabalus

*140. IVLIA SOAEMIAS AVG Bust r., draped.

Rev. VENVS CAELESTIS Venus, diademed, seated l., holding apple and sceptre; at her feet, a child.

Æ. Den. Rome. 2.75 grms. M. & S., IV, 2, p. 48, 243; C. 14. *Ex* "Catacombs" Hoard.

JULIA MAESA

Grandmother of Elagabalus

***141.** IVLIA MAESA AVG Bust r., draped.

Rev. PVDICITIA Pudicitia seated l., raising veil with r. hand and holding sceptre in l.

Æ. Den. Rome. 3.14 grms. M. & S., IV, 2, p. 50, 268; C. 36. *Ex* "Catacombs" Hoard.

JULIA PAULA

First Wife of Elagabalus

***142.** IVLIA PAVLA AVG Bust r., draped.

Rev. CONCORDIA Concordia seated l., holding patera; in l. field, star.

Æ. Den. Rome. 3.19 grms. M. & S., IV, 2, p. 45, 211; C. 6. *Ex* "Catacombs" Hoard.

AQUILIA SEVERA

Second Wife of Elagabalus

***143.** IVLIA AQVILIA SEVERA AVG Bust r., draped.

Rev. CONCORDIA Concordia standing l. before lighted altar, holding patera and double cornucopiae; in r. field, a star.

Æ. Den. Rome. 2.72 grms. M. & S., IV, 2, p. 47, 226; C. 2. *Ex* "Catacombs" Hoard.

SEVERUS ALEXANDER

222-235 A. D.

***144.** IMP SEV ALEXAND AVG Head r., laur.

Rev. P M TR P VII COS II P P Alexander, laur., advancing r., carrying spear and trophy.

Æ. Den. Rome. 228 A. D. 3.10 grms. *Ex* "Catacombs" Hoard.

***145. IMP ALEXANDER PIVS AVG** Bust r., laur. and draped.

Rev. IOVI PROPVGNATORI Jupiter, nude, with mantle flowing, holding a thunderbolt and an eagle, walking l., and looking to rear.

Æ. Den. Rome. 234 A. D. 3.20 grms. M. & S., IV, 2, p. 88, 239; C. 84. *Ex* "Catacombs" Hoard.

***146. IMP ALEXANDER PIVS AVG** Bust r., laur., draped and cuirassed.

Rev. SPES PVBLICA Spes advancing l., holding flower and raising robe.

Æ. Den. Rome. 231–35 A. D. 3.74 grms. M. & S., IV, 2, p. 89, 254; C. 546. *Ex* "Catacombs" Hoard.

***147.** Similar to No. 144.

Rev. FIDES MILITVM Fides seated l., holding two standards.

Æ. Den. Rome. 228–31 A. D. 3.16 grms. M. & S., IV, 2, p. 85, 193; C. 51. *Ex* "Catacombs" Hoard.

ORBIANA

Wife of Severus Alexander

***148. SALL BARBIA ORBIANA AVG** Bust r., diademed and draped.

Rev. CONCORDIA AVGG Concordia seated l., holding patera and double cornucopiae.

Æ. Den. Rome. 2.54 grms. M. & S., IV, 2, p. 96, 319; C. 1. *Ex* "Catacombs" Hoard.

JULIA MAMAEA

Mother of Severus Alexander

***149. IVLIA MAMAEA AVG** Bust r., draped.

Rev. IVNO CONSERVATRIX Juno, diademed and veiled, standing l., holding patera and sceptre; at feet, a peacock.

Æ. Den. Rome. 3.23 grms. M. & S., IV, 2, p. 98, 343; C. 35. *Ex* "Catacombs" Hoard.

MAXIMINUS I

235–38 A. D.

***150.** IMP MAXIMINVS PIVS AVG Bust r., laur., draped and cuirassed.

Rev. VICTORIA AVG Victory advancing r., holding palm branch and wreath.

Æ. Den. Rome. 235 A. D. 3.16 grms. M. & S., IV, 2, p. 141, 16; C. 99. *Ex* "Catacombs" Hoard.

***151.** MAXIMINVS PIVS AVG GERM Bust r., laur., draped and cuirassed.

Rev. VICTORIA GERM Victory standing l., holding wreath and palm branch; at feet, two German captives with hands tied behind back.

Æ. Den. Rome. 236–38 A. D. 3.53 grms. M. & S., IV, 2, p. 142, 23 var.; C. 107 var. *Ex* "Catacombs" Hoard.

MAXIMUS

Son of Maximinus

***152.** MAXIMVS CAES GERM Bust r., head bare, draped.

Rev. PRINC IVVENTVTIS Maximus standing l., holding rod and spear; behind, two standards.

Æ. Den. Rome. 236–38 A. D. 3.20 grms. M. & S., IV, 2, p. 155, 3; C. 10. *Ex* "Catacombs" Hoard.

PAULINA

Wife of Maximinus

***153.** DIVA PAVLINA Bust r., veiled.

Rev. CONSECRATIO Peacock facing.

Æ. Den. Rome. 3.66 grms. M. & S., IV, 2, p. 153, 1; C. 1.

GORDIAN I

238 A. D.

***154.** IMP M ANT GORDIANVS AFR AVG Bust r., laur., draped and cuirassed.

Rev. ROMAE AETERNAE Roma, helmeted, seated l. on a shield, holding Victory and leaning on sceptre.

Æ. Den. Rome. 238 A. D. 2.81 grms. M. & S., IV, 2, p. 160, 4; C. 8. *Ex* "Catacombs" Hoard.

BALBINUS

238 A. D.

***155.** IMP C D CAEL BALBINVS AVG Bust r., laur., draped and cuirassed.

Rev. IOVI CONSERVATORI Jupiter, nude, mantle thrown behind, holding thunderbolt and sceptre.

Æ. Den. Rome. 238 A. D. 2.70 grms. M. & S., IV, 2, p. 169, 2; C. 8. *Ex* "Catacombs" Hoard.

PUPIENUS

238 A. D.

***156.** IMP C M CLOD PVPIENVS AVG Bust r., laur., draped and cuirassed.

Rev. CONCORDIA AVGG Concordia seated l., holding patera and double cornucopiae.

Æ. Den. Rome. 238 A. D. 3.33 grms. M. & S., IV, 2, p. 173, 1; C. 6. *Ex* "Catacombs" Hoard.

GORDIAN III

238-244 A. D.

***157.** IMP CAES M ANT GORDIANVS AVG Bust r., radiate, draped and cuirassed.

Rev. PAX AVGVSTI Pax, standing l., holding olive branch and sceptre.

Æ. Ant. Rome. 238 A. D. 4.64 grms. C. 173 var.
Ex "Catacombs" Hoard.

***158.** IMP C M ANT GORDIANVS AVG Bust r.,
 laur., draped and cuirassed.

Rev. PAX AVGVSTI Pax standing l., holding olive
 branch and sceptre.

Æ. Den. Rome. 238 A. D. 2.99 grms. C. 173 var.

***159.** IMP GORDIANVS PIVS FEL AVG Bust r.,
 radiate, draped and cuirassed.

Rev. P M TR P III COS P P Gordian standing l.,
 holding patera and sceptre, sacrificing on a tripod.

Æ. Ant. Rome. 240 A. D. 4.96 grms. C. 226. *Ex*
 "Catacombs" Hoard.

***160.** IMP GORDIANVS PIVS FEL AVG Bust r.,
 laur., draped and cuirassed.

Rev. P M TR P III COS P P Gordian on horse
 walking l., raising r. hand and holding sceptre.

Æ. Den. Rome. 240 A. D. 2.92 grms. C. 234.
Ex "Catacombs" Hoard.

***161.** Similar to No. 159.

Rev. LIBERALITAS AVG III Liberalitas standing
 l., holding tessera and cornucopiae.

Æ. Ant. Rome. 241 A. D. 4.36 grms. C. 145 var.

PHILIP I

244-249 A. D.

***162.** IMP M IVL PHILIPPVS AVG Bust r.,
 radiate, draped and cuirassed.

Rev. AEQVITAS AVGG Aequitas standing l.,
 holding scales and cornucopiae.

Æ Ant. Rome. 3.96 grms. C. 8.

TREBONIANUS GALLUS

251–253 A. D.

***163. IMP C C VIB TREB GALLVS AVG** Bust r., radiate, draped and cuirassed, from behind.

Rev. LIBERTAS PVBLICA Libertas standing l., holding cap and sceptre.

Æ. Ant. Rome. 3.91 grms. C. 68.

AEMILIAN

253 A. D.

***164. IMP AEMILIANVS PIVS FEL AVG** Bust r., radiate, draped and cuirassed from behind.

Rev. ROMAÆ AETERN Rome standing l., holding a globe surmounted by a phoenix on r. hand and a spear in l., behind her, a shield.

Æ. Ant. Rome. 2.68 grms. C. 41.

MARINIANA

Wife of Valerian

***165. DIVAE MARINIANAE** Veiled bust r. on crescent.

Rev. CONSECRATIO Peacock flying r., carrying empress to heaven.

Æ. Ant. Rome. 254 A. D. 3.88 grms. M. & S., V, 1, p. 64, 6; C. 14.

MAGNIA URBICA

Wife of Carinus

***166. MAGN URBICA AVG** Bust r., diademed, with crescent.

Rev. IVNO REGINA Juno standing l., holding patera and sceptre. In exergue, KAÇ.

Æ. Ant. Rome. 4.10 grms. M. & S., V, 2, p. 184, 341; C. 4.

DIOCLETIAN

284–305 A. D.

- *167.** DIOCLETIANVS AVGVSTVS Head r., laur.
Rev. CONSVL V PP PROCOS Emperor standing l., holding globe. Below, to r., star; in exergue, S M A Ξ .
v. Aureus. Antioch. 5.44 grms. M. & S., V, 2, p. 254, 309; C. 49.

DOMITIUS DOMITIANUS

296–297 A. D.

- *168.** IMP C L DOMITIVS DOMITIANVS AVG Head r., laureate.
Rev. GENIO POPVLI ROMANI Genius, half nude, wearing modius, standing l., holding patera and cornucopiae; at feet to l., an eagle; to r., A; in exergue, ALE.
 Ξ . Alexandria. 9.72 grms. C. 1.

CARAUSIUS

286–293 A. D.

- *169.** IMP C CARAVSIVS PI FE IN AVG Bust r., radiate, draped and cuirassed.
Rev. SPES PVBLIC Spes walking l., holding flower and raising robe. In exergue, C; to l., S; to r., P.
 \mathfrak{A} . Ant. Colchester. 4.43 grms. M. & S., V, 2, p. 499, 412v., C. 341v.

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PLATE I



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PLATE II



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PLATE IX



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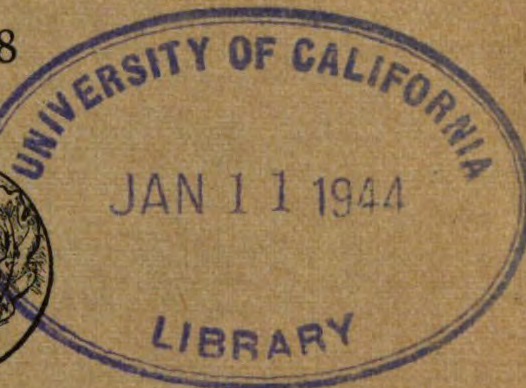
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NUMISMATIC NOTES AND MONOGRAPHS

No. 98



THE MEDALS OF THE UNITED STATES ARMY MEDICAL DEPARTMENT AND MEDALS HONORING ARMY MEDICAL OFFICERS

BY

EDGAR ERSKINE HUME

THE AMERICAN NUMISMATIC SOCIETY
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MAJOR WALTER REED

(1851—1902)

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**THE MEDALS OF THE
UNITED STATES ARMY
MEDICAL DEPARTMENT
AND
MEDALS HONORING
ARMY MEDICAL OFFICERS**

**BY
EDGAR ERSKINE HUME**



**THE AMERICAN NUMISMATIC SOCIETY
BROADWAY AT 156TH STREET
NEW YORK
1942**

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THE MEDALS OF THE UNITED STATES ARMY MEDICAL DEPARTMENT

BY EDGAR ERSKINE HUME

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INTRODUCTION

This study considers only medals that have been awarded in recognition of scientific or academic attainment. Consideration of decorations conferred for bravery or distinguished service forms no part of this work. In 1924 the Association of Military Surgeons of the United States published "The Medical Book of Merit: United States Army and Navy Decorations Awarded Medical Officers for Distinguished Service in the World War" (Washington, pp. 69) which may be consulted for the histories and illustrations of such decorations together with the citations of medical officers of the Army and Navy for World War Service.

The difficulty experienced by the author in obtaining data about the medals described herewith and the even greater task of securing photographs of each medal, convinces him that this is a neglected subject, though surely of considerable numismatic interest. About half of these medals are not represented in the numismatic collection of the Army Medical Museum of Washington, though it is one of the most complete of its kind.

My thanks are due to the Curator of the Army Medical Museum, my classmate and longtime friend, Colonel James Earle Ash, Medical Corps, U. S. Army; Mr. Roy M. Reeve, in charge of the photographic laboratory of the museum; the possessors of the several medals who have permitted photographs to be made; to the Executive Secretary of the Asso-

ciation of Military Surgeons of the United States, Mr. Stuart Early Womeldorph; the Commandants and Directors of the several schools of the Medical Department for historical and other material from their records, viz: Brigadier-General Addison D. Davis, Assistant Surgeon-General, U. S. Army, Commandant of the Medical Field Service School; Colonel George Russell Callender, Medical Corps, U. S. Army, Director of the Army Medical School (himself the first Sternberg Medalist); Colonel Frederick Bancroft Wright, Director of the Army Dental School; Lieutenant-Colonel Ralph B. Stewart, Director of the Army Veterinary School; Colonel Julia O. Flikke, Superintendent of the Army Nurse Corps; and Mr. George Albert Scheirer of the Surgeon-General's Office, War Department, who has searched the records for pertinent data and whose account of the medals of the several schools appeared in the *Army Medical Bulletin* No. 33, October 1935; the Rev. David V. McCauley, S. J., Dean of the School of Medicine of Georgetown University has kindly given me full information anent the two Kober Medals with copies of each, which I have deposited in the Army Medical Museum; Dr. Henry E. Meleney, of the Department of Preventive Medicine of New York University, chairman of the Committee of the American Society of Tropical Medicine which arranged the details of the design and awards of the Walter Reed Medal, and Dr. E. Harold Hinman, Secretary of that Society, have given me full data about the Walter Reed and Ashford Medals, while

Mr. W. A. Jamieson, Director of the Biological Division of Eli Lilly and Company gave me a photograph of the Ashford Medal.

EDGAR ERSKINE HUME

Colonel, Medical Corps, U. S. Army

PART I

MEDALS OF THE SCHOOLS OF THE MEDICAL DEPARTMENT, U. S. ARMY

The Medical Department of the United States Army, like all other branches of our military service, maintains certain schools for the training of its officers and men. Such schools form a part of the Army's educational program in effect in both peace and war.

While other branches of the Army have schools long in existence, the Medical Department claims the oldest of those which have continued since their institution with unchanged objectives. There were three service schools in the United States Army when the Army Medical School was established. The oldest, the *Artillery School of Instruction* at Ft. Monroe, Virginia, was founded in 1824. It is now continued as the *Coast Artillery School*. The second school in age was the *School of Application for Infantry and Cavalry*, founded at Ft. Leavenworth, Kansas in 1881. It continues as the *Command and General Staff School*. The third school, the *School of Instruction for Drill and Practice for Cavalry and Light Artillery*, was founded at Ft. Riley, Kansas, in 1887. It continues as the *Cavalry School*. All three schools have changed radically in scope of instruction given.

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Thus, while the Cavalry School and the Coast Artillery School are the successors of schools that were founded before the Army Medical School, they are very different from their forerunners. The Army Medical School during its forty-nine years of existence has served always for the preparation of medical officers for the duties that devolve upon them in the military service. Such duties embrace the practice of medicine, not very different from civil practice, and in addition the exercise of a definite medical specialty—military medicine. That is a specialty that suffers from a handicap that is not faced by other specialties. In the past, particularly before the Army Medical School was founded, the lessons learned by military surgeons in the fierce light of war itself were forgotten before the outbreak of the next war. Thereafter they had to be learned anew, and again in the hard way. It was to preserve such hard-won learning and to foster research in military medicine that the Army Medical School was established.

The Medical Department of the United States Army is composed of the Surgeon-General, a Major-General; his four Assistants, Brigadier-Generals; the Medical Corps; the Dental Corps; the Veterinary Corps; the Medical Administrative Corps and the Nurse Corps. All of these five corps exist in the Regular Army and the National Guard. In addition there is in the Reserve a Sanitary Corps, composed of specialists in sanitation. All of the above are officers. Enlisted men of the Medical Department

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were formerly known as the Hospital Corps, a term now out of use in the Army, though retained in the Navy. The Enlisted Men, Medical Department, are of the following eleven grades: Master Sergeant, First Sergeant, Technical Sergeant, Staff Sergeant, Technician Third Grade, Sergeant, Technician Fourth Grade, Corporal, Technician Fifth Grade, Private First Class and Private.

The Medical Department of the Army maintains certain special service schools, as they are known. Each is designed to give special instruction to officers and men of the Department. It will be understood that all schools for officers are "graduate schools" in the sense that only graduates of professional schools are admitted. Thus, only Doctors of Medicine, Doctors of Dental Surgery (or Doctors of Dental Medicine) and Doctors of Veterinary Medicine are under instruction at the respective Army schools. None of the Army schools gives degrees or in any way compares in scope with the professional schools and universities of the country.

The Schools of the Medical Department are:

The Army Medical School (established 1893).

The Army School of Nursing (established 1918).

The Medical Field Service School (established 1920).

The Army Dental School (established 1921).

The Army Veterinary School (established 1922).

The School of Aviation Medicine (established 1922).

There have been medals created as awards for

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academic attainment at all of the above schools, except the School of Aviation Medicine.

These medals have, without exception, been established by private gift, though accepted by the War Department and given official recognition. Winners of the medals are listed as "medalists" in the *Official Army Register*. The medals, almost without exception, have been awarded not oftener than annually, in each case. But in some years the regular courses of instruction have been altered or omitted, so that the average has been less than one award per year for each medal.

The Army Medical School

The Army Medical School originated in the mind of Surgeon-General William Alexander Hammond (1828–1900), who held office at the period of the War Between the States. He had gone so far with the plan as to select the professors, outline the course of instruction, and provide lecture rooms and laboratories. However, he failed to obtain the approval of the Secretary of War, Honorable Edward McMasters Stanton, and the school never materialized in his time. This much regretted delay was due, probably, to the personal hostility of Mr. Stanton to General Hammond, whom he had tried by court martial and dismissed from the service on a technical charge. Hammond was later exonerated. So this act of Mr. Stanton's must be charged against his record, along with his disloyalty to President Lincoln.

Shortly after George Miller Sternberg (1838–1915),

took office as Surgeon-General of the Army in 1893, he created the Army Medical School, being more fortunate than Hammond, and having the support of the Secretary of War, Honorable Daniel Scott Lamont.

Not only is the Army Medical School the oldest of the Army service schools; it also possesses the oldest medal awarded for high academic standing, the Hoff Medal. Most of the line special service schools do not have such medals, though there are two exceptions. The Knox Medal is awarded at the Field Artillery School, Fort Sill, Oklahoma, to the non-commissioned officer making the best showing at the enlisted specialists communications course. A privately endowed Leadership Trophy is presented at the Cavalry School, Fort Riley, Kansas.

The Army Medical School is in Washington. It was at first conducted in the Army Medical Library and Museum building at 7th Street and Independence Avenue (formerly B Street), Southwest. Later rented quarters were provided and finally in 1922 the large building for the school was completed near the Walter Reed Hospital. These two institutions, and other schools of the Medical Department to be mentioned presently, constitute the Army Medical Center.

The Army Veterinary School

Prior to the National Defense Act of 1916 there was no Veterinary Corps in the United States Army. Veterinarians, but without military rank, were at-

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tached theretofore to regiments of Cavalry and Field Artillery, and to the Quartermaster Corps. The National Defense Act created a Veterinary Corps as one of the several corps of the Medical Department and transferred to it the veterinarians of Cavalry, Field Artillery and Quartermaster Corps.

A school for veterinary officers, known as The Veterinary School of Meat and Dairy Hygiene, was created in 1920 and announced in War Department Circular No. 271, 16 July, 1920. It was located at the General Supply Depot, Chicago, and formed a part of the scheme of Medical Department training under the Surgeon-General.

Under authority of Army Regulations 350-105, the school was removed to Washington and made a part of the Army Medical Center. Its name was changed to the Army Veterinary School on 11 February, 1922. The removal from Chicago to Washington was authorized by the War Department on 7 July, 1923.

The courses of instruction at the Army Veterinary School are to veterinary officers what those at the Army Medical School are to medical officers, and those at the Army Dental School to dental officers. The three schools are in one building and much of the instruction is common to all three, thereby effecting a saving of time for all concerned.

The Army Dental School

The Army Dental School, now one of the units of the group known as the Medical Department Pro-

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fessional Schools, was created in 1921, the first class graduating in 1922. The school was first housed in a temporary building at the Army Medical Center, but with the completion of the new building of the Army Medical School and other professional schools of the Medical Department, it has been conducted in this modern and entirely adequate building.

The Army Dental School is to the Dental Corps what the Army Medical School is to the Medical Corps. The courses of instruction are similar, with certain obvious differences due to the type of duty performed by the officers of the respective corps. The students at the Army Dental School, together with those of the Army Veterinary School, receive part of their training in the same classes as the officers of the Army Medical School. This is a saving of time for the instructors and also in the use of equipment.

The Army Dental School offers courses for both officers and enlisted men, the latter being trained as dental technicians.

The Medical Field Service School

The Medical Field Service School was established by the War Department on 30 June, 1920, upon the recommendation of the Surgeon-General, Major-General Merritte Weber Ireland. It is located at Carlisle Barracks, Pennsylvania. This is one of the oldest posts in the United States Army, having been in continuous military use since its establishment in 1752 by the British Army. Several earlier schools

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have been conducted at this historic post, including the School for Artillerists, established at the time of the Revolution, the School for Dragoons, established after the War of 1812, a School for Veterinarians conducted after the Civil War, and the Carlisle Indian Industrial School maintained from 1879 to 1918. One of the buildings was erected in 1777 by Hessian prisoners of war captured by General Washington at the battle of Trenton.

The post was used during the World War as a General Hospital and has been under control of the Medical Department of the Army ever since. Its purpose, as the Medical Field Service School, is to train officers and men of the Medical Department in their duties in the field, in both peace and war. Among the subjects taught are tactics, map reading, field sanitation, logistics, military art, training of enlisted personnel, and administration. With the graduation of the Officers' Classes and the Officer Candidate Classes by the middle of the year 1942, the total number of graduates of the Medical Field Service School, including summer camps, is brought up to over twenty-two thousand. The scope of the Medical Field Service School's teaching is summed up in its motto: "To conserve fighting strength."

There are several courses of instruction. The basic course is for junior officers who have just come into the regular service. It is discontinued for the period of the emergency. The advanced course, also temporarily discontinued, is for senior officers soon to come up for promotion examinations. The

non-commissioned officers' course is still given. As emergency courses there are a series of short officers' courses, as they are now called, in which officers receive general instruction for about two months. There is now also a course for selected non-commissioned officers, and a few privates, of the Medical Department to qualify them for commissions in the Medical Administrative Corps. Besides these courses there are summer camps in normal times for students of the Reserve Officers Training Corps, and Reserve and National Guard officers.

The School of Aviation Medicine

The School of Aviation Medicine, established 8 November, 1922, is the successor of the Medical Research Laboratory, created during the World War for the study of problems relating to the medical side of aviation. The school trains flight surgeons. It is now located at Randolph Field, Texas. It is not considered here in detail as it awards no medals.

The Army School of Nursing

On 25 May, 1918 the Secretary of War, Hon. Newton Diehl Baker, approved the recommendation of the Surgeon-General of the Army, Major-General William Crawford Gorgas, that there be established the Army School of Nursing, in connection with the Walter Reed General Hospital, Washington, "as a method of providing for the rapid expansion of skilled nursing service that the continuation of the war will inevitably demand." Thus the school was

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an emergency institution growing out of the World War.

The Army Nurse Corps is one of the several corps of the Medical Department of the Army, its status being similar to that of the Medical Corps, the Dental Corps, the Veterinary Corps, the Sanitary Corps and the Medical Administrative Corps. Plans for the Army School of Nursing were made by a board consisting of Colonels William H. Moncrief, Percy M. Ashburn, Warfield T. Longcope, Charles H. Mayo, Winford H. Smith and Robert E. Noble. These were approved by General Gorgas and the school began its work amid the rush and needs of a great war. Besides the senior medical officers just named, several leaders of the nursing profession of America assisted, including Jane Delano, Chairman of the American Red Cross Nursing Service; Dora Thompson, Superintendent of the Army Nurse Corps; S. Lillian Clayton, President of the National League of Nursing Education; and Elizabeth C. Burgess and Annie W. Goodrich, Inspecting Nurses.

The school was organized in three bureaus: (1) General Information, (2) Credentials and (3) Inspection. There were nine members of the professional staff and a clerical staff of thirty. An advisory council of distinguished medical and nursing personnel was appointed by General Gorgas. The faculty comprised the nurse directors and instructors, the medical lecturers and such other assistants as were required in the development of the school. The active support of the American Red

Cross was given from the start. Arrangements were made for certain phases of the training to be given at hospitals other than the Walter Reed, where such other institutions had greater facilities for teaching. Thus, in obstetrics, gynæcology, and pædiatrics, particularly, the instruction was given in the Philadelphia General Hospital, the Johns Hopkins Hospital, and others.

The work of the Army School of Nursing was of the highest quality and its graduates have stood well in their profession both in and out of the military service. The school was discontinued in 1933 by order of Surgeon-General Robert U. Patterson, because there was no need for the Army to train nurses when more than the number needed could be obtained from civil training schools. The school was not abolished, merely closed for the time being. It may be opened again should a need arise, which may well be the case during the present war.

THE HOFF MEDAL (Army Medical School)

The oldest of the medals, presented as awards for academic attainment to graduates of the several schools of the Medical Department of the Army, is the Hoff Medal. It is still awarded, though during the present war such prizes are in abeyance as the regular classes are not being graduated at the Army Medical School. The Hoff Medal is only five years younger than the Army Medical School itself and it is by far the senior medal of the Medical Department.

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The Hoff Medal was established by Major, later Colonel, John Van Rensselaer Hoff, Medical Corps, U. S. Army, in memory of his late father, Surgeon and Brevet Lieutenant-Colonel Alexander Henry Hoff, U. S. Army.

On 28 October, 1897 Major Hoff, by letter to the Surgeon-General, Brigadier-General George Miller Sternberg, offered to establish a gold medal, in honor of his father, to be awarded annually to the graduate of the Army Medical School standing highest in his class.

To endow the prize he offered to deposit in the Treasury of the United States, if authorized by Congress, the sum of one thousand dollars, to be known as the Hoff Memorial Fund, the interest on which would be applied to the cost of the Hoff Medal. In the absence of such Congressional authority, which the law requires before the Government may accept private gifts, Major Hoff offered to supply the medal for the coming session of the Army Medical School.

On 5 November, 1897, the President of the Army Medical School, Colonel Charles Henry Alden, replied on behalf of the Surgeon-General, and accepted Major Hoff's gift of the medal for the next session of the Army Medical School. He stated that amid the press of government business it would be all but impossible to obtain an Act of Congress authorizing the acceptance of the Hoff Memorial Fund, but suggested, as an alternative, that a trust fund be established with a trust company, to provide for the

annual cost of the Hoff Medal. The Secretary of the Treasury approved of this arrangement, and authorized the preparation of the dies at the United States Mint at Philadelphia. The Surgeon-General offered the Director of the Mint suggestions for the design of the medal.

The first award of the Hoff Medal was made to the class of 1898 at the Army Medical School. Between that time and 1900 attempts were made to obtain Congressional authority for the acceptance of the Hoff Memorial Fund. Though the plan had the support of the Surgeon-General, Congressional authority was not forthcoming.

Colonel Hoff continued to donate the cost of the medal, approximately forty dollars, annually. On 24 May, 1905, he announced that he had made provision in his will for a perpetual trust to provide for a Hoff Medal annually. He died in 1920 and in that year Mrs. Hoff provided the medal.

Colonel Hoff's will, dated 24 December, 1911, named as his executors the Metropolitan Trust Company of New York and Russell M. Johnstone of Albany. It established the trust for the annual striking of the Hoff Medal in the following terms:

"Second. I give and bequeath to the Metropolitan Trust Company of the City of New York the sum of fifteen hundred dollars in trust nevertheless, to hold and to invest and from time to time to reinvest, to collect the income to be derived from said fifteen hundred dollars and, after deducting the legal expenses of executing said trust, to pay the net income therefrom on the 31st day of December in each and every year to the Surgeon-General of the United States Army, for the purchase of a gold medal by him, of that value, to be known as the Alexander H. Hoff Memorial Medal, in memory of my

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father the late Brevet Colonel Alexander H. Hoff, Medical Department, United States Army, which medal is to be awarded annually to the student standing highest in the graduation class of the Army Medical School. Should the present Army Medical School be merged into a public service medical school, said medal shall follow; but should said medal not be awarded for ten consecutive years, then and in that case said trust is to cease and determine and I direct my said Trustee to pay over the principal constituting said trust fund, with all income in its hands, to the Trustee of the Fund for Widows and Orphans of deceased clergymen of the Protestant Episcopal Church in the United States of America. In the event of my establishing in my life-time a trust fund for the purpose specified in this paragraph of my last will and testament, then this paragraph is to be void and said sum of fifteen hundred (1500) dollars shall sink into and form a part of my residuary estate."

Surgeon Hoff, whom the Medal Honors

Alexander Henry Hoff was born in Philadelphia, 18 December, 1822, a descendant of a Colonial family of New Jersey. He graduated at the Jefferson Medical College, 1843, and practiced in New York State, where he was interested in military medicine from an early date. From 1854 to 1856 he was Surgeon-General of New York. He was commissioned Surgeon of the Third New York Infantry, 14 May, 1861, and had his baptism of fire at Big Bethel, where a lantern was shot out of his hand. On 3 August, 1861 he was commissioned Brigade Surgeon, U. S. Volunteers, and became director of the fleet of floating hospitals on the Mississippi. He was a skillful operator and did much war surgery. In the latter part of the war he was Medical Director of Transportation, having charge of the distribution of patients to hospitals east of the Alleghanies. He received the brevet of Lieutenant-Colonel, 13 March,

1865 for "Faithful and meritorious service during the war." He was honorably mustered out of the service on 1 March, 1866. His taste for military life had been established, so that on 14 May of the same year he was commissioned, after examination, Assistant Surgeon, in the Regular Army, with the rank of Captain. He accompanied the first troops to Sitka, Alaska, and later served in San Francisco and at Governor's Island, New York Harbor, until his death on 19 August, 1876. (cf. John Van Rensselaer Hoff's sketch of his father, *The Military Surgeon*, 1912, xxxi, 47-51)

Colonel Hoff, Founder of the Medal

Colonel John Van Rensselaer Hoff was born in New York State, 7 April, 1848. He graduated in medicine at Albany Medical College in 1871 and at Columbia in 1874. In the same year he was appointed Acting Assistant Surgeon and served at Omaha Barracks, Nebraska, until November the twelfth, when he accepted an appointment as an Assistant Surgeon in the Medical Department of the Army. During the years from 1874-79, his service was on the Western Frontier and he served during this period at Fort Sanders, Wyoming Territory; Fort McPherson, Nebraska; Fort Fetterman, Wyoming Territory.

In 1879 he was ordered to New York City, whence, after promotion to the grade of Captain, he served at Fort Monroe, Virginia. In 1882 he was ordered to the Department of California and assigned as Post

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Surgeon on Alcatraz Island, then an army post and now well known as the prison for desperate criminals. He served at Alcatraz until 1884; then relieving Surgeon George Miller Sternberg (later Surgeon-General) at Fort Mason in the same state. In 1886 he was on duty at Fort Leavenworth, Kansas; and in 1887 was given leave to travel abroad, on his return being assigned to Fort Reno, Indian territory. After this he took station as Post Surgeon at Fort Riley, Kansas; during which period he spent considerable time with troops in campaign. In the autumn of 1890 he took the field with the Seventh Cavalry and First Artillery at the Pine Ridge Agency, South Dakota, and was on duty with them from that time to and through the fight with the Big Foot Band at Wounded Knee Creek on December twenty-ninth and thirtieth and at White Clay Creek on December thirtieth of the same year. During the Indian outbreak he conducted himself with marked gallantry in the performance of his duties as Surgeon and was commended in official orders at the time. After the World War, when the Distinguished Service Cross had been created, he was awarded one of these coveted decorations as a recognition of his bravery in the presence of the hostile Indians. The citation states that "when the Indians made a sudden treacherous attack upon the troop, Captain Hoff, with utter disregard for his personal safety, attended to the dressing of the wounds of fallen soldiers."

He was promoted to the grade of Major in 1890

and in 1892 while on duty at Fort Riley, was, at the special request of Governor R. E. Pattison, of Pennsylvania, detailed to accompany him on a tour of inspection of the camp of the Pennsylvania National Guard. In the same year he was relieved from duty at Fort Riley and ordered to report at Fort Columbus, New York. While on duty in New York Harbor in 1893, he was appointed a representative of the Medical Department of the army to accompany the foreign delegates of the Pan-American Medical Congress to Boston, Saratoga, and other places. In 1896 he was appointed a member of the Board of Officers to meet at Davis Island, New York, for the purpose of revising drill regulations for the Hospital Corps of the army. This was a task greatly to his liking. Thereafter, he once more served in the West at Vancouver Barracks, Washington.

In 1898 Colonel Hoff left Vancouver Barracks in compliance with the orders of the Surgeon-General, having been commissioned Lieutenant-Colonel of Volunteers on that date and appointed Chief Surgeon of the Third Army Corps at Chickamauga Park.

In 1900 he was relieved of duty as Chief Surgeon of the Department of Puerto Rico and ordered to report in person to the Surgeon-General of the Army who sent him to Peking, China, where he was attached to the United States forces. In 1902 he was promoted to the grade of Lieutenant-Colonel and made a member of the Board of Officers to consider the subject of modification of uniform equipment of officers and enlisted men of our Army. In

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November 1902, he was ordered to Fort Leavenworth, Kansas. There he continued on duty until the Secretary of War designated him as observer with the Russian Army in the Russo-Japanese War. He served at St. Petersburg and in the field with the Russians, and in recognition of his assistance, was awarded the Order of Saint Anne by the Tsar of Russia.

In 1906, he was sent to Manila as Chief Surgeon of the Department of Luzon and continued in the Philippine Islands until the end of 1908. In 1909, he reported as Chief Surgeon of the Department of the Lakes at Chicago and served there for about a year. He was retired from active duty in 1912.

He gave his best to the service of his choice and it was due to his able mind that many changes, and always changes for the better, were made in respect to the organization of the Medical Corps, which he saw grow up and develop from its more simple predecessor, the Medical Department. Colonel Hoff was for a time editor of *The Military Surgeon*, the monthly journal of The Association of Military Surgeons of the United States.

Colonel Hoff has been honored since his decease by the service that he knew and loved. One of the new large general hospitals which the army has established and which is now in operation at Santa Barbara, California, is known as the Hoff General Hospital. At the Walter Reed Hospital in Washington, a large memorial fountain, partly the gift of Mrs. Hoff, has been erected in his honor. At

Carlisle Barracks the academic building of the Medical Field Service School, perhaps the most important single structure that the Medical Department uses in its training program, is named for him. Colonel Hoff is the sort of officer that the Medical Department likes to hold up before its young men as an ideal towards which they must strive. He was ever faithful to the trust placed in him and he never failed to uphold the honor of his corps and give concrete evidence of the true meaning of the expression "an officer and a gentleman."

On 22 June, 1875, Assistant Surgeon Hoff married Lavinia Day, daughter of Brigadier-General Hannibal Day, U. S. Army. She survived Colonel Hoff for several years.

Design of the Hoff Medal

The Hoff Medal is of gold measuring forty-three millimetres in diameter. The obverse bears the effigy of Surgeon and Brevet Lieutenant-Colonel Alexander Henry Hoff, U. S. Army, facing left. Above in an arc are the words: A. H. HOFF MEMORIAL PRIZE and below, in an arc: FOUNDED 1897. The medal is bordered by raised dots. The reverse is charged with a wreath of laurel leaves enclosing these words:

AWARDED TO

 FOR HIGHEST STANDING AT
 THE U. S. ARMY MEDICAL
 SCHOOL WASHINGTON D. C.

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The places for the name of the recipient and, below, the date, are slightly raised tablets, whereon the words are engraved. The reverse, like the obverse, is surrounded by a border of raised dots.

The dies for the Hoff Medal are in the United States Mint, Philadelphia, where the medals are struck annually as needed, upon order of the Director of the Army Medical School, with the approval of the Surgeon-General of the Army.

Eligibility for the Hoff Medal

The terms of Colonel Hoff's gift were such that the Hoff Medal is "awarded annually to the student standing highest in the graduating class of the Army Medical School." In some years no medal has been awarded, either because the faculty did not feel that any student had merited it, or when there was no class graduating at the School. All this was as contemplated by Colonel Hoff when he endowed the medal.

There was no change in the procedure until the World War. The class of 1917 entered the Army Medical School in the regular way. After that class had been under instruction for some weeks, it was decided by the War Department that it would be necessary to put more than one class per year through the school in order to supply the need for new medical officers. The National Defense Act had come into force and the Medical Corps of the Army, instead of being increased in five increments as originally intended, was enlarged suddenly to its

full new strength. President Wilson had exercised the powers given him by Congress and had ordered the expansion to take effect immediately.

Therefore the class then at the Army Medical School was continued under a greatly concentrated schedule of work. The hours of instruction were increased and the time otherwise free reduced. The class managed to complete the full quota of hours of instruction and was graduated at the end of February, 1917, instead of the end of May as had been usual. Immediately a second class of 1917 was entered at the Army Medical School under an even more reduced schedule.

When the first class of 1917 graduated the faculty of the Army Medical School realized that the available funds would not permit of the award of two Hoff Medals in one year. Accordingly the medal was not awarded to the student standing highest in the first class of 1917, but was held pending later events. As it worked out there were actually three classes graduated in 1917.

Shortly before the graduation of the third of the classes of 1917, the Commandant of the Army Medical School, Brigadier-General William Hempel Arthur, announced that the three classes of 1917 would be considered as "sections" of one class and the Hoff Medal awarded accordingly. The same arrangement was made with respect to the Sternberg Medal, as we shall see. General Arthur stated that this unsatisfactory arrangement was unavoidable and was made solely because of there being insufficient funds to

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present a Hoff Medal to each class. In the years since this time there have frequently been more than one class graduated at one of the schools of the Medical Department and there has never been any idea of considering them "sections" of one hypothetical class. The three classes of 1917 had nothing in common except that they received their diplomas in the same calendar year. Each of these 1917 classes was several times as large as the average class that had attended the Army Medical School in previous years, so that the competition for the medals was the more severe. More than one class had been graduated at the U. S. Military Academy in one year, but there was never any thought of considering them "sections" of the same class. It so happened that one of the graduates of the first class of 1917 at the Army Medical School was a member of a board of officers to examine candidates for commission in the Medical Corps. One of the physicians examined was sent to the Army Medical School in time to graduate in one of the later classes of 1917. Two such officers could by no stretch of imagination have been considered classmates.

However, there seemed no other solution at the time and but one Hoff Medal was awarded for the three classes of 1917 and but one for the two classes of 1918. A few years later the widow of Colonel Hoff, who had personally defrayed the cost of the Hoff Medal in the year of Colonel Hoff's death, offered to present a Hoff Medal to the officer who had stood first in the first class of 1917, being the

last class that had received the full period of instruction comparable to the previous classes. The first class of 1917, she said in her offer to General Arthur, the then Commandant, was the largest class that has ever attended the Army Medical School. Therefore, with the approval of Surgeon-General Ireland, the Hoff Medal for the first 1917 class was awarded by General Arthur at a ceremony at which Mrs. Hoff was present. Thus the table below shows awards of the Hoff Medal for two classes of 1917. A similar arrangement was made for the Sternberg Medals for 1917.

The first recipient of the Hoff Medal was First Lieutenant Brainard Spencer Higley, Jr., Assistant Surgeon U. S. Army. He died in 1900, before the second Hoff Medal was awarded. Indeed the second Hoff Medal was not awarded until the class graduating in 1902. Years afterwards the Army Medical Museum sought in vain to locate the Hoff Medal that had been awarded Lieutenant Higley. Finally in 1941 the winner of the second Hoff Medal, Colonel James Matthew Phalen, U. S. Army, retired, now Editor of *The Military Surgeon*, presented his medal to the Army Medical School for its extensive collection of medals of medical interest.

The terms of Colonel Hoff's will, above quoted, provide for the continuance of the Hoff Medal as an award for academic excellence at a public service medical school should one ever be created and replace the Army Medical Museum. Such a school was ever advocated by Colonel Hoff, who envisaged a sort of

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medical West Point which could prepare medical officers not only for the Army, but for the Navy and Public Health Service as well. A medical academy of somewhat this scope exists in Germany.

Recipients of the Hoff Medal

- 1898—First Lieutenant Brainard Spencer Higley, Jr. (died 1900).
1899—No award. }
1900—No award. } The Army Medical School was closed during
1901—No award. } this period.
1902—First Lieutenant James Matthew Phalen (now Colonel, retired).
1903—First Lieutenant Harry Lorenzo Gilchrist (now Major-General, retired).
1904—First Lieutenant Lloyd Llewellyn Smith (now Colonel, retired).
1905—First Lieutenant William Adolphus Duncan (now Lieutenant-Colonel, retired).
1906—First Lieutenant Albert Gallatin Love (now Brigadier-General, retired).
1907—First Lieutenant Frederick Stevens Macy (now Lieutenant-Colonel, retired).
1908—First Lieutenant Mahlon Ashford (now Colonel, retired).
1909—First Lieutenant Henry Clay Coburn (now Brigadier-General).
1910—First Lieutenant Henry Beeuwkes (later Colonel; resigned).
1911—First Lieutenant Henry Poindexter Carter (now Colonel).
1912—First Lieutenant William Bertram Meister (now Colonel).
1913—First Lieutenant Benjamin Beckham Warriner (now Colonel).
1914—First Lieutenant Charles Lewis Gandy (now Colonel).
1915—First Lieutenant Harry Dumont Offutt (now Colonel).
1916—First Lieutenant Edward Allen Noyes (now Colonel).
1917—First Lieutenant Edgar Erskine Hume (now Colonel).
1917—First Lieutenant James Monroe Troutt (now Lieutenant-Colonel).
1918—First Lieutenant Robert Adwood Corgin (resigned, 1919).
1919—First Lieutenant Robert Effinger Cumming (resigned as Captain, 1921).

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- 1920—Major Seymour Crandall Schwartz (now Lieutenant-Colonel).
1921—Major Albro Lefils Parsons (now Colonel).
1922—Captain William Cramers Pollock (now Lieutenant-Colonel).
1923—Captain William Davis Gill (resigned, 1928).
1924—Captain Philip Lewis Cook (now Lieutenant-Colonel).
1925—First Lieutenant Leon Lloyd Gardner (now Lieutenant-Colonel).
1926—Captain Frank Paul Strome (now Lieutenant-Colonel, retired).
1927—Captain Charles Rice Lanahan (now Lieutenant-Colonel).
1928—Captain Don Longfellow (now Lieutenant-Colonel).
1929—Captain Frank Bolles Wakeman (now Lieutenant-Colonel).
1930—First Lieutenant Samuel Foster Seeley (now Lieutenant-Colonel).
1931—First Lieutenant Aubrey LeVerne Bradford (now Lieutenant-Colonel).
1932—First Lieutenant Walter Lee Peterson (now Major).
1933—First Lieutenant Leonard Theodore Peterson (now Major).
1934—Captain Norman Webb White (now Lieutenant-Colonel).
1935—First Lieutenant Fred Howenstine Mowrey (now Major).
1936—First Lieutenant Edwin Stewart Kagy (now Major).
1937—First Lieutenant William Farrall Cook (now Major).
1938—No award.
1939—(First Class) Captain William Darrell Willis (now Major).
1939—(Second Class)—First Lieutenant Herbert Downing Edger (now Captain).
1940—No award.
1941—No award. Medal in abeyance for period of the national emergency, regular courses at The Army Medical School being suspended.

The Hoff Medal has been awarded forty times.

Another Hoff Medal Offered

A second Hoff Medal was offered by the widow of Colonel Hoff in 1929, to be awarded in his honor at the Medical Field Service School. The offer was declined as the result of the following recommendation of Colonel Charles Ransom Reynolds, the

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Commandant, on 22 June, 1929, to the Surgeon-General:

"It is not believed that another medal should be accepted as an award to a member of the Basic Class in view of the fact that two awards are now being given—one, the Skinner Medal to the member of the class who receives the highest general standing, and the First Division Prize to the student considered best qualified for duty with the medical regiment. These awards cover practically the entire field of instruction given to the Basic Class of the Medical Field Service School. It would therefore be difficult to determine the basis of awarding another medal. If some minor subject were determined upon as the basis of award, it would not be in keeping with the spirit and purpose evidenced by Mrs. Hoff and the chances are that the student qualifying for one prize would likely qualify for all of them.

"Mrs. Hoff's desire to establish this award is greatly appreciated. Colonel Hoff's service in the Medical Corps of the Army and his great interest in field service are a continuing inspiration to everyone at the Medical Field Service School. We all wish that a Hoff Medal could be accepted as desired by Mrs. Hoff, but we believe that the naming of the main academic building at the Medical Field Service School for Colonel Hoff is a very appropriate recognition of the splendid services of Colonel Hoff in the line of work in which the Medical Field Service School is engaged.

C. R. Reynolds,
Colonel, Medical Corps, Commandant"

THE STERNBERG MEDAL

(Army Medical School)

We have seen that the founder of the Army Medical School was Surgeon-General George Miller Sternberg. Nothing could be more fitting than that a medal in his honor be awarded at that institution for excellence in bacteriology and related sciences. General Sternberg, though no longer in office, was living at the time that the Sternberg Medal was

created. It was the gift of a loyal friend of the Army Medical School, First Lieutenant Richard Slee, of the Medical Reserve Corps, U. S. Army, who later attained the grade of Colonel, Officers Reserve Corps. At that time there was no other reserve in the Army and all its officers were of the grade of First Lieutenant. General Sternberg attended the graduation exercises at the Army Medical School and, at Dr. Slee's request, made the presentation of the first Sternberg Medal. (For Dr. Slee's biography, see p. 49).

General Sternberg

George Miller Sternberg was born in Otsego County, New York, 8 June, 1838. He received his medical education at the College of Physicians and Surgeons, New York (now Columbia University), where he graduated in 1860. He practiced medicine for a year at Elizabeth, New Jersey, and at the outbreak of the War Between the States was commissioned Assistant Surgeon in the Regular Army. He was present at the battle of Bull Run where, refusing to leave the wounded, he was captured. Declining to give his parole he promptly escaped. Throughout the remainder of the war his work was outstanding and he received brevets of Captain and Major for "faithful and meritorious services."

Thenceforth he served for many years in the West, often against hostile Indians. Before he was forty he received the brevet of Lieutenant-Colonel for gallantry in the campaign against the Nez Percés.

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He also fought a still more deadly foe for, as Dr. George M. Kober once said: "I do not know of a single medical officer who faced cholera and yellow fever epidemics as often and courageously as he."

His studies of disinfectants began while he was serving in the West, and resulted in his being awarded the Lomb Prize in 1885, being the chairman of the American Public Health Association's committee on this subject. He was a pioneer in bacteriological work in America. In 1881 he discovered the pneumococcus, the microörganism that causes pneumonia. Some of his photomicrographs, made in 1881, are still unsurpassed, despite more modern apparatus.

His scientific studies of yellow fever proved that the existing theories as to its cause were erroneous, so that thus he laid the way for the later work of Walter Reed. His books on bacteriology played an important part in the development of that science in America. He published in 1892 the first American textbook on the subject.

He advanced through the grades and was made Surgeon-General of the Army in 1893 with the rank of Brigadier-General. He established the Army Medical School within a few months of his appointment, showing that he had already made plans for that institution. He recognized young Walter Reed's ability and sent him to Johns Hopkins for graduate work under Professor William Henry Welch. When the famous Yellow Fever Commission was appointed in 1900, General Sternberg chose

Reed as its head. The work of that commission is too well known to require description.

Full of years and of honors General Sternberg died in Washington on 3 November, 1915 and was buried with military honors in the National Cemetery. One cannot better sum up his career than by quoting the epitaph on his monument at Arlington, for it was prepared by no less worthy a hand than that of Prof. Welch:

"Pioneer American Bacteriologist. Distinguished by his studies of the causation and prevention of infectious diseases, by discovery of the microörganism of pneumonia, and scientific investigations of yellow fever, which paved the way for the experimental demonstration of the mode of transmission of that pestilence. Veteran of three wars, brevetted for bravery in action in the Civil War and the Nez Percés War. Served as Surgeon-General of the U. S. Army for a period of nine years, including the Spanish War. Founder of the Army Medical School. Scientist, author, and philanthropist, M.D., LL.D."

General Sternberg married, 1 September, 1869, Martha, daughter of Thomas Thurston Nelson Pattison of Indianapolis. She survived her husband and endowed the Sternberg Medal at the Army Medical School, as will be related below.

*General Sternberg's Remarks
in Presenting the First Sternberg Medal*

"Lieutenant George R. Callender: It gives me great pleasure to present you the first Sternberg Medal, which is awarded to you by the faculty of the Army Medical School for your proficiency in

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bacteriology and serumtherapy. I highly appreciate the privilege of presenting this medal, which has been provided and named by Dr. Richard Slee, who studied bacteriology under my direction in the Hoagland Laboratory, Brooklyn, N. Y. more than twenty-five years ago.

"My own bacteriological studies commenced at a time when, so far as I know, no one in this country had made any serious researches in this field of investigation, and the majority of the profession regarded this class of microorganisms as of no importance from a pathological point of view. It is unnecessary to point out to you the successive steps in the development of our knowledge since that time, and the great value, especially to preventive medicine, of the facts which have been brought to light by a host of earnest students in the bacteriological laboratories in all parts of the civilized world.

"It is a matter of gratification to me to know that here, in the Army Medical School, this branch of medical science is given special attention, and that in future those who come here to prepare themselves for the varied and responsible duties of medical officers of the army will have a special incentive to excel in bacteriology.

"At the same time, I desire to impress upon you the fact that no expert knowledge in any one branch of medical science will justify a neglect of that practical knowledge of medicine and surgery, and that preparation for active field-service which it is essential that every medical officer should possess.

"You cannot give too much attention to questions relating to the prevention of disease among those whose sanitary interests are committed to your care. But, while the studies you have pursued at the Army Medical School are designed especially to prepare you for those responsible duties, you must not forget that the interests of the sick and the wounded of our army are in your hands, and that these interests and your reputations will depend upon your professional knowledge and skill.

"It is a matter of great satisfaction to me that the Army Medical School, which I established twenty years ago, has served so useful a purpose and is at present in such a satisfactory condition. Several of its earlier graduates now belong to the faculty of the school.

"We can point with pride to the achievements of many of those who have received its diplomas, and we confidently anticipate that you, Dr. Callender, and other members of your class will do some notable things in the interest of scientific medicine, and for the reputation of the Medical Corps of the army.

"I desire to express to Dr. Richard Slee my high appreciation of

the honor he has done me by giving this medal in my name. It is now fifty-two years since I received my commission as a medical officer of the army, and when I consider the great progress which has been made in medical science and in the facilities for acquiring a sound medical education since that date, I feel that you are entering upon your career of active service with greatly superior advantages, and that we may justly look to you for superior achievements. I congratulate you upon being the first graduate of the Army Medical School to receive the Sternberg Medal, which I now present to you." (*American Journal of Clinical Medicine*, August 1913).

Dr. Richard Slee defrayed the cost of the Sternberg Medal annually from the date of its institution, 1913, until 1920, five years after General Sternberg's death. In that year, Dr. Slee relinquished the right to present the Sternberg Medal to General Sternberg's widow, at her request, and created the Slee Medal, to be described presently (see page 48).

Mrs. Sternberg Endows the Medal

Mrs. Sternberg offered to endow the Sternberg Medal in perpetuity, in memory of her great husband. The Surgeon-General, Major-General Ireland, accepted her offer, at the same time approving Dr. Slee's creation of the Slee Medal. Mrs. Sternberg accordingly deposited with the Commandant of the Army Medical School 100 shares, of \$10 par value each, in the Washington Sanitary Improvement Company, guaranteed dividend of 5 per cent annually, and yielding approximately eighty dollars per year. The Stock Certificate, bearing the number 1561, is deposited with the Commandant of the Army Medical School, being in the name of the Surgeon-General. By 24 May, 1935 the available

balance in the Sternberg Medal Fund had grown to \$420.89.

Mrs. Sternberg had new dies prepared at the United States Mint, Philadelphia, where the new type of Sternberg Medal has been struck ever since.

The Sternberg Medal is awarded to the student at the Army Medical School attaining the highest standing in preventive medicine. The winner is selected by the faculty upon the recommendation of the Director of the Department of Preventive Medicine.

The first Sternberg Medal was awarded First Lieutenant George Russell Callender, now Colonel and Director of the Army Medical School. The first Sternberg Medal of the new type (presented by Mrs. Sternberg) was won by First Lieutenant Virgil Heath Cornell, now Lieutenant-Colonel, and sometime Curator of the Army Medical Museum. Both Colonel Callender and Colonel Cornell have deposited their Sternberg Medals on indefinite loan in the collection of the Army Medical Museum. Thus that institution has the first copies of each type. The same arrangements, as above described for the Hoff Medal, were made for the award of the Sternberg Medal in 1917 and 1918.

Design of the Sternberg Medal, First Type

The first type of Sternberg Medal is of gold, measuring forty millimetres in diameter. The obverse bears, within a plain linear circle, the caduceus, badge of the Medical Corps of the United States

Army, upon a wreath of laurel leaves. The lower part of the wreath is concealed by a scroll inscribed IST LT. MED. CORPS, U. S. A. with space vacant for engraving the name of the recipient thereon. Around the circumference of the medal is the legend: IN HONOR. BRIG. GEN. GEO. M. STERNBERG, U. S. A., RET'D. FOUNDER ARMY MEDICAL SCHOOL ★ SOLDIER - SCIENTIST ★ The reverse bears the words:

PRESENTED
BY
RICHARD SLEE, M. D.
IN HONOR OF
GEO. M. STERNBERG
SURG. GEN. U. S. A. 1893-1902
FOR EXCELLENCE IN
BACTERIOLOGY & SERUM THERAPY
ARMY MEDICAL SCHOOL
CLASS

.....

The date of the class is engraved in the last line. The design of the medal is in high relief. The medal was executed, after designs of Dr. Slee, by Alva Nelson (1869-1937), Swedish born medallic artist of New York.

Design of the Sternberg Medal, Second Type

The second type of Sternberg Medal is of gold suspended from a watered silk ribbon of three equal stripes, red-white-blue. The obverse bears the profile of General Sternberg, facing left, with the words OBSTA PRINCIPIIS above and STERNBERG below the effigy of the great bacteriologist. To the left, in

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small letters are the words: CITIZEN - SOLDIER - SCIENTIST. To the right, in the same size letters, are the words: FOUNDER ARMY MEDICAL SCHOOL, 1893. The reverse bears the words, in an arc above: FOR PROFICIENCY IN PREVENTIVE MEDICINE, and in an arc below: ARMY MEDICAL SCHOOL. In the center, partly enclosed in a wreath of laurel leaves, are these words:

ENDOWED BY
MARTHA L. STERNBERG
IN MEMORY OF
HER HUSBAND
AWARDED TO

.....
SESSION
.....

The name of the recipient and the date of his class are engraved thereon. The suspension of the new Sternberg Medal from a ribbon is, perhaps, unfortunate, for Army Regulations do not permit of its being worn on the uniform. The ribbon hangs from a concealed pin. The diameter of the medal is thirty-nine millimetres.

Recipients of the Sternberg Medal

First Type

- 1913—First Lieutenant George Russell Callender (now Colonel)
- 1914—First Lieutenant Alexander Watson Williams (died in France, 1918)
- 1915—First Lieutenant Raymond Ewell Scott (resigned; now Lieutenant-Colonel)
- 1916—First Lieutenant Paul Adolph Schule (now Colonel)
- 1917—First Lieutenant James Stevens Simmons (now Colonel)
- 1917—First Lieutenant Edmund Benjamin Spaeth (resigned as Major).

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1918—Medal not awarded

1919—Medal not awarded

1920—First Lieutenant August John Phillip Pacini (resigned, 1920)

Second Type

1921—First Lieutenant Virgil Heath Cornell (now Lieutenant-Colonel)

1922—Captain Raymond Osborne Dart (now Lieutenant-Colonel)

1923—Captain Frank Smeeton Matlack (now Lieutenant-Colonel)

1924—Captain Albert Glenn Kinberger (now Lieutenant-Colonel)

1925—Captain Harvey Robison Livesay (now Lieutenant-Colonel)

1926—First Lieutenant William Frank DeWitt (now Lieutenant-Colonel)

1927—First Lieutenant William Oscar French, Jr. (resigned, 1927)

1928—Captain Ebner Holmes Inmon (now Lieutenant-Colonel, retired).

1929—First Lieutenant Francis Elbert Council (now Lieutenant-Colonel)

1930—First Lieutenant Sam Foster Seeley (now Lieutenant-Colonel)

1931—First Lieutenant Karl Rosenius Lunderberg (now Major)

1932—First Lieutenant William Spencer Stone (now Lieutenant-Colonel)

1933—First Lieutenant Richard Paul Johnson (now Captain)

1934—Captain Joseph Hamilton McNinch (now Lieutenant-Colonel)

1935—Captain James Hodges Forsee (now Major)

1936—First Lieutenant Frank Hiram Van Wagoner (now Major)

1937—First Lieutenant Beverly Holland (name changed at his request, 1937, to B. Dixon Holland) (now Captain)

1938—Medal not awarded

1939—(First Class)—First Lieutenant William Clark Cooper (resigned)

1939—(Second Class)—Captain Arnold Lorentz Ahnfeldt

1940—Medal not awarded.

1941—No award. Medal in abeyance for period of the National Emergency, regular courses at the Army Medical School being suspended.

The Sternberg Medal, First Type, was awarded

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seven times. The Slee Medal (see page 48) from the same dies, was awarded three times. The Sternberg Medal, Second Type, has been awarded nineteen times.

THE SKINNER MEDAL

(Army Medical School and
Medical Field Service School)

The Skinner Medal was created by one of the fine old field soldiers of the Medical Department, a man who, said Surgeon-General Reynolds, "appreciated the importance to young medical officers of training in medical field service at the beginning of their careers." This officer was Major John Oscar Skinner.

His offer was accepted by Surgeon-General William Crawford Gorgas on 29 March, 1917. This was after the graduation of the first class of 1917 but in time for the later classes of that year. The same decision as to the award, based on the two later classes of 1917 being "sections" of the same class, was made by the faculty of the Army Medical School (see above, p. 25).

Major Skinner, Founder of the Medal

John Oscar Skinner was born in Baltimore, 4 May, 1845. He entered the military service as an Acting Assistant Surgeon (Contract Surgeon) in 1871, and served in that capacity until there was a vacancy in the commissioned ranks of the Medical Department. He was commissioned Assistant Surgeon with the

rank of First Lieutenant, 10 March, 1874, and was promoted Major Surgeon, 9 March, 1892. On 20 October, 1893, the year of the opening of the Army Medical School, he was retired for disability incident to the service.

"He was," wrote his old friend, General Jefferson Randolph Kean, in an obituary, "a notable figure in the Old Army of frontier days. He received a medical education of unusual completeness for that day, having graduated in medicine at the Universities of Pennsylvania and Maryland, and taken special courses at the Universities of Würzburg and Vienna, and a course of lectures at the Sorbonne. He retired for disability in 1893, but did not, as is too often the case with retired officers, give up his interest in and his affiliations with his profession, his Corps, and the Association of Military Surgeons. For many years he was Superintendent of the Columbia Hospital in Washington, until compelled by increasing deafness to give up administrative work."

He won his country's highest award for bravery before the enemy. This was in the Modoc War, a tragic episode now forgotten by many. His citation for the Congressional Medal of Honor is: "At Lava Beds, Oregon, 17 January, 1873, he rescued a wounded soldier who lay under a close and heavy fire during the assault on the Modoc stronghold after two soldiers had unsuccessfully attempted to make the rescue and both had been wounded in so doing."

Major Skinner died in Washington on 12 September, 1932.

Eligibility for the Skinner Medal

The Skinner Medal has had more variations in form and in the requirements for eligibility than any other medal in our series. The original offer specified that it should be awarded to the student standing highest in military hospital efficiency and administration. These words occur on the obverse of the medal. The first Skinner Medals were of bronze and struck on Major Skinner's order by the Bailey, Banks and Biddle Company of Philadelphia.

Major Skinner turned over to the Commandant of the Army Medical School the sum of \$1,100 in First Liberty Loan Converted 4¼ per cent Bonds, registered in the name of the Surgeon-General of the Army.

Under these provisions the Skinner Medal was awarded from 1917 to 1920, inclusive, at the Army Medical School. In 1920 the War Department created the Medical Field Service School at Carlisle Barracks, Pennsylvania, as we have seen. The Surgeon-General, Major-General Ireland, felt that the award of the Skinner Medal might now more appropriately be made at the new school.

On 6 November, 1920, Major Skinner not only agreed to the change, but authorized the Surgeon-General to "exercise discretion in any manner relative to the award of the medal." The bonds endowing the Skinner Medal were therefore transferred to the Commandant of the Medical Field Service School, 1 March, 1921. A new design was

prepared and the medal cast by the Bailey, Banks, and Biddle Company, Philadelphia.

The Skinner Medal at the Medical Field Service School has always been awarded to the student standing highest in the Basic Class, that is, the class of young medical officers who acquire their training in field duties at the Medical Field Service School. Thus we see that the significance of the Skinner Medal at the Army Medical School and its award at the Medical Field Service School are quite different.

The Liberty Bonds endowing the Skinner Medal having been called for payment by the Treasury, the Surgeon-General on 20 June, 1935, directed the re-investment of the principal in United States Treasury Bonds, 1955-1960, bearing $2\frac{7}{8}$ per cent. The new bonds are deposited in the safety box of the Central Hospital Fund of the Army in the American Security and Trust Company, Washington.

In 1932, the year of his death, Major Skinner had dies prepared for a new design of the Skinner Medal. They were made at the United States Mint in Philadelphia. The medal was then struck in gold.

In 1935, at the time of the unavoidable reinvestment of the endowment fund at a lower rate of interest, the cost of the Skinner Medal in gold had risen to \$61.50 each. The annual income was insufficient to permit the medal thenceforth to be struck in gold, so that a bronze medal, struck from the same dies, was substituted.

Thus the Skinner Medal has been awarded at two schools, the Army Medical School and the Medical

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Field Service School. It has been of three designs. The first was used at the Army Medical School 1917–1920, inclusive; the second at the Medical Field Service School; the third at the Medical Field Service School since, and including, 1933. The Skinner Medal was of bronze from 1917 to 1932, inclusive; in gold 1933 to 1936, inclusive; and in bronze since, and including, 1937.

Design of the Skinner Medal, First Type

The first type of Skinner Medal is of bronze, measuring 31 millimetres in diameter, and suspended from a watered silk ribbon of three equal stripes of red—white—blue. The ribbon hangs from a concealed pin. The obverse bears, in high relief, the main building of the Walter Reed Hospital, Washington D. C., as it appeared in 1917, before the addition of the wings now existing. On a scroll above are the words: **MILITARY HOSPITAL ADMINISTRATION** and below: **AND EFFICIENCY**. In an inner arc above: **DI OMNIA LABORIBUS VENDUNT**. To the left there is a branch of oak leaves and to the right a branch of laurel leaves. The reverse bears, in two arcs, the words: **PRESENTED BY J. O. SKINNER, MAJOR, MEDICAL CORPS, U. S. ARMY** and **ARMY MEDICAL SCHOOL**. In the center there are the words:

1ST LT.....
MEDICAL CORPS
U. S. ARMY

with space on first line for the winner's name and below for the date of his class.

Design of the Skinner Medal, Second Type

The Second Type of the Skinner Medal was cast in bronze by the Bailey, Banks and Biddle Company of Philadelphia. It is of dark finish in dull metal and measures fifty-nine millimetres in diameter. The obverse bears the allegorical figure of a surgeon ministering to a wounded soldier. Above and toward the right in two curved lines are the words, MEDICAL . FIELD . SERVICE . SCHOOL, UNITED . STATES . ARMY. Below is the motto of the school: TO CONSERVE FIGHTING STRENGTH. The reverse bears a wreath charged with a shield of the arms of the Medical Field Service School; *viz*, a sword, point upward, and the Staff of Æsculapius crossed. On a chief, an open book, a tent and a wheel. In the center is a scroll bearing the words:

SKINNER MEDAL
TO

.....
MEDICAL CORPS

The name of the winner is cast in the medal and not engraved thereon. The designs on both obverse and reverse are in high relief.

Design of the Skinner Medal, Third Type

The third type of Skinner Medal is struck at the United States Mint, Philadelphia. It measures 38 millimetres in diameter. The first four awards, 1933 to 1936, inclusive, were in gold. Since then the medal has been struck in bronze. The obverse depicts a medical officer, in modern uniform, ad-

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ministering medical aid to a wounded infantryman, kneeling and leaning on his rifle. To the left of the group are the words: MEDICAL FIELD and to the right: SERVICE SCHOOL, UNITED STATES ARMY. Below, in an arc, are the words: TO CONSERVE FIGHTING STRENGTH, being the motto of the Medical Field Service School. To the left, in small letters, is the name: J. R. SINNOCK. The reverse bears the arms of the Medical Field Service School, a sword and the staff of Æsculapius in saltire, and in chief an open book, a tent, and a wheel. Above is set for crest, an eagle displayed. Below the shield is a tablet with the words: AWARDED TO, with space for the name and rank of the recipient to be added in two lines. Below the tablet are two conventional branches of laurel leaves, in a horizontal line. The medal bears no date.

Recipients of the Skinner Medal

First Type, Bronze—Army Medical School

- 1917—First Lieutenant James Monroe Troutt (now Lieutenant-Colonel).
1918—First Lieutenant Robert Adwood Corbin, (resigned 1919).
1919—First Lieutenant Harvey Davis Thornberg, (resigned 1921).
1920—First Lieutenant William Otis Callaway (resigned 1920).

Second Type, Bronze—Medical Field Service School

- 1921—Captain Montreville Alfred St. Peter (resigned 1934).
1922—Major Oral Bevely Bolibaugh (now Lieutenant-Colonel).
1923—Captain Lewis Bradley Bibb (died 1938).
1924—Medal not awarded.
1925—First Lieutenant Leon Lloyd Gardner (now Lieutenant-Colonel).
1926—First Lieutenant Joseph Ignatius Martin (now Colonel).

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- 1927—First Lieutenant George Ellis Armstrong (now Lieutenant-Colonel).
1928—Captain Don Longfellow (now Lieutenant-Colonel).
1929—Captain Clyde Wakefield Scogin, Dental Corps (retired as Major; deceased).
1930—Captain Elwood Luke Nye, Veterinary Corps (now Lieutenant-Colonel).
1931—First Lieutenant Silas Beach Hays (now Lieutenant-Colonel).

Third Type, Gold—Medical Field Service School

- 1932—Captain Crawford Fountain Sams (now Lieutenant-Colonel).
1933—First Lieutenant Achilles Lyons Tynes (now Major).
1934—First Lieutenant Joe Alexander Bain (now Major).
1935—Captain James Hedges Forsee (now Major).
1936—Captain Llewellyn Lancelot Barrow (now Major).

Third Type, Bronze—Medical Field Service School

- 1937—First Lieutenant Edwin Stewart Kagy (now Major).
1938—Captain Douglas Blair Kendrick, Jr. (now Major).
1939—First Lieutenant John Boyd Coates, Jr. (now Major).
1940—(First class) Captain Eldred La Monte Gann (now Major).
1940—(Second class)—First Lieutenant Charles Ellison Melcher (now Captain).
1940—(Third class)—Captain Oscar Elliott Ursin (now Major).

Thus we see that the first type of the Skinner Medal, bronze, was awarded four times at the Army Medical School. The second type, also in bronze, was awarded at the Medical Field Service School ten times. The third type in gold, was awarded five times at the Medical Field Service School. The third type, in bronze, has been awarded at the Medical Field Service School six times. Like the other medals of the schools of the Medical Department of the Army, the awards of the Skinner Medal are suspended for the present.

THE SLEE MEDAL

(Army Medical School)

The Slee Medal is really a continuation of the Sternberg Medal (see pages 30–40). When, in 1920, the widow of General Sternberg expressed the desire of endowing a medal in honor of her great husband, Colonel Slee generously offered to have the Sternberg Medal that he presented known thenceforth as the Slee Medal. The Slee Medal, therefore, is from the very same dies as the first type of Sternberg Medal.

The existence of two types of Sternberg Medals and likewise a medal bearing the name Sternberg but known as the Slee Medal had been confusing to those interested in numismatics. The Slee Medal was awarded only three times, but, in effect, these three copies should be added to the seven awards of the Sternberg Medal, First Type, since there have been ten awards of the strikes from the original Sternberg Medal dies.

Thus in the years 1921, 1922, and 1923, two medals inscribed "Sternberg Medal" were awarded at the Army Medical School, one being the Slee Medal, from the old Sternberg Medal dies and the other from the new Sternberg Medal dies. After 1923 the annual award of the Slee Medal by Colonel Slee was withdrawn. The dies therefor are still in his possession.

Recipients of the Slee Medal

1921—Captain Philip Palmer Green (now Lieutenant-Colonel).

1922—First Lieutenant George Francis Cooper (resigned, 1923).

1923—Captain Charles Booth Spruitt (now Colonel).

*Colonel Slee, Founder of the
First Sternberg Medal and the Slee Medal*

Richard Slee was born in Brooklyn on 15 September, 1867 and received his medical education at the Long Island College Hospital, where he graduated in 1891. His scholarship won him the Dudley Gold Medal and the Lewis Anatomical Prize. He early came under the influence of the great bacteriologist, General Sternberg, and from him learned much of what was still a new science. Later he became Sternberg's assistant. It was as a result of General Sternberg's opinion regarding the method of distributing small-pox vaccine dried on ivory points, the method employed at that time, that Dr. Slee established a biological laboratory at Swiftwater, Pennsylvania, to produce glycerinized vaccine. The United States Army was his first customer. This virus was used during the Spanish-American War and later for the prevention of smallpox in Cuba, Puerto Rico, Hawaii and the Philippines. These laboratories have since been consolidated with the National Drug Company and are under the direction of Dr. Slee's son, Captain Arthur M. Slee.

In 1908 the United States Army created its first Reserve, the Medical Reserve Corps. Dr. Slee was among the first to be commissioned in this new group. From this time forth he took a very active interest in military affairs. Dr. Slee was always an active officer of the Medical Reserve Corps, which prior to the enactment of the National Defense Act, had but one grade, that of First Lieutenant.

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In 1913 he was Sanitary Officer, Third Division, at the Gettysburg Reunion. In 1914–1915, he was on active duty at the Medical Officers Training Camp at Tobyhanna, Pennsylvania. In 1916 he was Sanitary Officer at this camp. He completed the correspondence courses for regular medical officers, Fort Leavenworth, Kansas, 1915–1916. He devised the Slee venereal prophylactic packet that was widely used during the punitive expedition under General Pershing into Mexico.

In June, 1917, less than two months after the United States entered the World War, Dr. Slee was ordered to active duty at Camp Crane, Allentown, Pennsylvania, where the United States Army Ambulance Service was under training. He remained at this post throughout the period of the war. He was promoted Major at the time he reported for duty; Lieutenant-Colonel, 15 June, 1918; and Colonel, 12 April, 1919. When the first commanding officer of Camp Crane, Colonel Elbert Elvero Persons, went to Italy in command of the Ambulance Service with the Royal Italian Army, Colonel Slee succeeded him in command of Camp Crane, 17 May, 1918. He continued on duty to the end of the work of the camp and on 12 April, 1919, closed the camp. His son, Captain Arthur M. Slee, went to Europe under Colonel Persons's command, being the commander of Ambulance Section No. 565.

Colonel Slee continued his active work in the Army Reserve. On 7 September, 1922 he organized and was placed in command of General Medical Labora-

tory No. 1, Snee Laboratory Unit, Swiftwater, Pennsylvania. He was the first National Commander of U. S. Army Ambulance Service Association, 1920-1921. He was an official representative at the burial ceremonies of the Unknown Soldier at the National Cemetery, Arlington, and presented a copy of the U. S. Army Ambulance Service's Medal.

He retired on 1 October, 1937, and makes his home at 80 Ralph Avenue, White Plains, New York. He is looked upon by the Medical Department of the Army as one of its faithful friends, a good soldier, and a valued medical officer.

THE DENTAL CORPS MEDAL

(Army Dental School)

In 1924 officers of the Dental Corps, U. S. Army, were invited to contribute to a fund to establish a medal for academic excellence at the Army Dental School. Thus was created the Dental Corps Medal. The conditions of the award were laid down by the faculty of the Army Dental School, with the approval of the Surgeon-General. It was decided that the medal would be awarded annually to the officer attaining the highest general average at the Army Dental School. The fund was collected by the Director of the Army Dental School as custodian.

It was announced that the award should be retroactive and thus include the graduates standing highest in the classes of 1922 and 1923. The Army Dental School had been created in 1922 as one of the

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Medical Department Professional Schools, at first in connection with the Army Medical School and now at the Army Medical Center, Washington, D. C.

The dies for the medal were made by the Bailey, Banks and Biddle Company of Philadelphia, and the medals therefrom have been struck in gold. No permanent fund for the Dental Corps Medal was ever established.

In 1934 the award of the medal was discontinued and as its further presentation was not contemplated, the dies were deposited for safe-keeping in the office of the Surgeon-General of the Army. A balance of about one hundred dollars remaining in the fund was used in part to defray the cost of a portrait of the late Colonel Robert Todd Oliver, chief of the Dental Corps, which may be seen in the Army Dental School (*The Army Medical Bulletin*, July, 1935, No. 32, 58-59).

Design of the Dental Corps Medal

The Dental Corps Medal is of gold, measuring 47 millimetres in diameter. The obverse bears a hand holding a flaming torch. Above this, there are five mullets or five-pointed stars, and to the right the emblem of the Dental Corps of the United States Army, being a caduceus upon which the letter *D* is superimposed. Above, in an arc, are the words: THE DENTAL CORPS, and below, also in an arc, the words: UNITED STATES ARMY. The reverse bears a wreath of laurel leaves surrounding these words:

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THE
CORPS MEDAL
AWARDED TO
.....
FOR HIGHEST STANDING
ARMY DENTAL SCHOOL
WASHINGTON
.....

The place for the name of the winner is a slightly raised tablet and space is provided below for the date. Though different in execution, the reverse of the Dental Corps Medal is similar to that of the Hoff Medal (see pages 23-24).

Recipients of the Dental Corps Medal

- 1922—Captain Clarence Constantine Olson (now Lieutenant-Colonel).
- 1923—Captain William Crittenden Webb, Jr. (retired as Lieutenant-Colonel).
- 1924—Captain Walter Davis Vail (now Colonel).
- 1925—Captain Edward Crawford Alley (now Lieutenant-Colonel).
- 1926—Captain James Barton Mann (now Lieutenant-Colonel).
- 1927—Captain George Robert Kennebeck (now Colonel).
- 1928—Captain Lynn Harold Tingay (now Lieutenant-Colonel).
- 1929—Major John Lloyd Schock (now Lieutenant-Colonel).
- 1930—Captain Earl George Gebhardt (now Lieutenant-Colonel).
- 1931—Major Samuel John Rohde (later Lieutenant-Colonel; died, 1942).
- 1931—Captain Roger Giles Miller (now Major).
- 1933—Captain Clarence Price Canby (now Major).
- 1934—Major Bruce Harold Roberts (now Colonel, retired).

The Dental Corps Medal was awarded thirteen times.

THE DEVRIES MEDAL (Medical Field Service School)

The DeVries Medal was the gift of the late Colonel Joseph Carlisle DeVries (1874–1941), Medical Reserve, United States Army, a graduate of the Medical Field Service School and an officer deeply interested in its welfare. The offer of the medal was made by Colonel DeVries in a letter to the Commandant of the School, Colonel Percy Moreau Ashburn, dated 14 November, 1922. Colonel DeVries said, in part:

“To show my appreciation for what I obtained in way of military knowledge at the school, may I offer a medal to be awarded to the officer attaining the highest mark in drill in the Department of Enlisted Training—this man to be selected by Major Bastion from each Basic Course for Reserve Officers?”

Major Bastion, above mentioned, is Joseph Edward Bastion, now Colonel, Medical Corps, then in charge of the Department of Training at the Medical Field Service School. Colonel DeVries a month later wrote again to the Commandant giving his wishes concerning the medal:

“Regarding my medal, it is to be limited to Reserve Officers, provided there are ten or more. Otherwise it is to include National Guard officers. The latter would carry it off each time on account of the fact that they are in constant touch with things military at the armories, while the Reserve officer is very apt to be and remain ‘rusty,’ unless he be given the advantage of training at our school and is willing

to make the most of his opportunities and profit thereby . . . " (Letter of 18 December, 1922).

Carrying out the responsibility placed upon him by the donor, Major Bastion prepared the following rules respecting the award of the DeVries Medal, of date 10 March, 1923.

"The following rules will govern the awarding of the DeVries Medal in the subject of Drill and Command:

(a) Drill:

1. Such close order drill as is given in this course.
2. Litter drill.
3. Ambulance loading.
4. Sabre drill.

(b) Grading will be done as follows:

1. Covering knowledge of Drill Regulations, Infantry, and Sanitary Drill Regulations as pertain to litter drill and ambulance loading, by
 - (a) Daily marks on these subjects;
 - (b) Practical tests;
 - (c) Written test.
2. Ability of the student as a drill master, to be determined by
 - (a) Methods used by student in imparting the drill Regulations to the class;
 - (b) Manner of giving commands;
 - (c) Ability to detect faults in drill movements, and the correction of same;
 - (d) Bearing of the student before the class."

Under these rules the DeVries Medal was awarded in the years 1923 and 1924. Before the time for the award of the 1925 medal, the then commandant, Lieutenant-Colonel Charles Ransom Reynolds, (later Major-General and Surgeon-General of the Army), wrote to Colonel DeVries, 23 September, 1925:

"What would you think of changing the terms under which the DeVries Medal is to be awarded to

the present and future classes, so that it would go to the officer who gets the highest general standing in the class? At the present time it is given to the officer who does best in drill and command, therefore it goes to the one who is really the best drilled officer and who can drill troops best. The course for National Guard and Reserve Officers has been changed. It is no longer a basic course, but is a field officers course in which the subjects of drill and command are given for the sole purpose of demonstrating and illustrating the methods of training. There are other far broader subjects falling under the Department of Training, such as mobilization and the preparation of mobilization plans, training problems, orders and schedules. In other words, the subjects for which your medal was to be awarded have been minimized and now constitute only a small part of the course. Colonel McCamant gives a medal to the officer who does best in Military Hygiene and Sanitation . . .

"I would suggest, therefore, that you consider a change in the terms under which your medal is to be awarded and to give it to the officer who receives the highest general standing in the Field Officers Class."

Colonel DeVries acquiesced in this and thereafter the DeVries Medal was awarded to the officer standing highest in the class composed of field officers of the Reserve and National Guard.

Colonel DeVries, Founder of the Medal

Joseph Carlisle DeVries was born in New York

City, 26 May, 1874. He received his medical education at the Medical Department, New York University, where he graduated as a Doctor of Medicine in 1895. Thereafter he had considerable post-graduate medical training. He was house physician at the Loomis Consumptive Hospital; junior physician at the Manhattan State Hospital, Ward's Island and Central Islip, New York; house surgeon at the Methodist Episcopal Hospital, Philadelphia. He was Professor of Pathology and Physical Diagnosis at the National University, Washington, D. C., and Visiting Physician at the Emergency Hospital of Washington. He was attending physician at various times at a number of other hospitals.

He was appointed Acting Assistant Surgeon, U. S. Army (Contract Surgeon), during the Spanish-American War and from 1903 to 1904 was a Lieutenant, junior grade, in the Medical Corps of the U. S. Navy. From 1906 to 1909 he was Captain, Medical Corps, New York National Guard, being promoted Major in 1917. From 1918 to 1919 he was a Captain, Medical Corps, U. S. Army, being promoted Major, Medical Reserve, 1919; Lieutenant-Colonel, 1922; and Colonel, 1925.

During the Spanish-American War he served at Lester U. S. General Hospital at Chickamauga Park, Georgia, and in the U. S. Hospital at Ponce, Puerto Rico. During the World War he was an instructor at Camp Greenleaf, Georgia, where so many reserve medical officers were trained for war duties. He was later on duty at Camp Hancock, Georgia, and

at Spartanburg, South Carolina. He was a member of the Discharge Board at Camp Upton, New York, at the end of the war and was for a time in command of the 302nd Medical Regiment, 77th Division. He also commanded Hospital Center No. 6.

As a specialist in tuberculosis he had long service with the Veterans' Administration, retiring in April 1941. His interest in the Medical Reserve of the Army was great at all times. He had active duty nearly every summer, being often at Carlisle Barracks. It was while here that he offered to present the DeVries Medal at the Medical Field Service School.

Colonel DeVries died on 27 July, 1941, at Washington Sanitarium, Takoma Park, Maryland, a suburb of Washington. The above information concerning Colonel DeVries has been supplied by his son, Mr. Van Beuren W. DeVries of Washington.

Design of the DeVries Medal

The DeVries Medal, manufactured by the firm of Dieges and Clust of New York, measures 42 millimetres in its longest and 31 millimetres in its shortest dimensions. The medal is enamelled in colors and is, in effect, an enlargement of the metal badge, representing the arms of the Medical Field Service School, worn as a part of the uniform of the personnel of the school. The only difference is that the DeVries Medal bears the words DE VRIES MEDAL horizontally across the middle of the medal. The arms of the Medical Field Service School, as depicted

on the DeVries Medal are: Sanguine, in chief: an open book, a tent and a wheel; argent, in base the staff of Æsculapius and a naked sword point down, in saltire. Though the heraldry may not be entirely above criticism, the shield represents the book of knowledge, the tent typifies field service and the wheel refers to transportation. The staff of Æsculapius, the rod with a single serpent entwined, is the ancient badge of the medical art, while the sword pertains to the military service. The reverse of the DeVries Medal is of plain gold. The first copy issued was engraved:

LEADERSHIP
AND PROFICIENCY IN
DRILL
DURING SHORT BASIC
COURSE FOR
RESERVE OFFICERS
AT THE
MEDICAL
FIELD SERVICE
SCHOOL
U. S. A., CARLISLE BARRACKS, PA.
AWARDED BY
LT. COL. JOSEPH CARLISLE
DE VRIES
MED. O. R. C.

There is no place for the name of the recipient, the only space being that for the date. The medal is suspended from a ribbon of deep red, almost maroon. It is possible that the engraving on the reverse of the medal, being done by hand in each case, may have varied somewhat in the eight examples struck. The

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later awards were for highest standing in the National Guard and Reserve Officers Course. The first copy was not enameled.

Recipients of the DeVries Medal

- 1923—Captain Eugene Farmer Sanford, Medical Reserve, U. S. Army.
1924—Colonel Thomas Jefferson McCamant,* Medical Reserve, U. S. Army.
1925—Lieutenant-Colonel Roy McLeay Fortier, Medical Reserve, U. S. Army.
1926—Major Edward Joseph Cringle, Medical Reserve, U. S. Army.
1927—Lieutenant-Colonel Ralph Thomas Knight, Medical Reserve, U. S. Army.
1928—Major Francis William Moore, Medical Corps, New York National Guard.
1929—Major Erl Armitage Baber, Medical Reserve, U. S. Army.
1930—Captain Gordon Friedrich Helsley, Medical Corps, California National Guard.

THE HOSKINS MEDAL

(Army Veterinary School)

The Hoskins Medal was created in honor of Doctor William Horace Hoskins, a prominent veterinarian, who had greatly assisted the Veterinary Corps of the Army in its fight for official recognition. The medal was sponsored by the American Veterinary Medical Association and was approved verbally by the Surgeon-General of the Army in 1924.

The cost of the Hoskins Medal was borne, 1924–1925, by voluntary contributions of veterinary officers of the Regular Army. At the annual meet-

*This is the Colonel McCamant who in 1924 created the McCamant Medal (see page 65).

ing of the American Veterinary Medical Association at Portland, Oregon, in 1925, the responsibility for the annual cost of the Hoskins Medal was assumed by that body. Thereafter the medal was presented by the Association to the Director of the Army Veterinary School for award to each class of graduates.

The medal was cast in gold by the Bailey, Banks and Biddle Company of Philadelphia. The molds were acquired by A. H. Dondero, manufacturer of military insignia, Washington, and he supplied the Hoskins Medals as long as they were authorized. The medal was discontinued with the award for 1924. The molds have been deposited for safekeeping in the office of the Surgeon-General, U. S. Army.

Dr. Hoskins, whom the Medal honors

William Horace Hoskins was born at Rockdale, Delaware County, Pennsylvania, 23 July, 1860. Receiving preliminary education at the public schools of his native county, he graduated as a Doctor of Veterinary Medicine at the American Veterinary College, New York City, 1881.

He began the practice of his profession in Philadelphia, 1881, being also a member of the veterinary faculty of the University of Pennsylvania, teaching veterinary jurisprudence, ethics and business methods. He continued in Philadelphia until 1917, when he became Dean of the New York State Veterinary College, New York University. At the same time he was Professor of Jurisprudence and Clinical Medicine at that institution.

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Dr. Hoskins was a prolific writer for professional journals, and was editor of the *Journal of Comparative Medicine and Veterinary Archives* for many years. He was a member of The Pennsylvania State Board of Veterinary Medical Examiners, and served both as its secretary and its president. In 1889 and 1895 he helped to frame the legislation relating to the practice of veterinary medicine in Pennsylvania. From 1888 to 1893 he was secretary of the American Veterinary Medical Association and was its president from 1893 to 1896, its only president who has served for three terms.

He was for many years a member of the American Veterinary Medical Association's Committee on Army Legislation, being frequently its chairman. The work of this committee had much to do with the creation of the Veterinary Corps of the Army. It was in recognition of this long service to his profession and the Veterinary Corps that the Hoskins Medal was named in his honor.

Dr. Hoskins died in New York City, 10 August, 1921. His obituary in the *Journal of the American Veterinary Medical Association*, September, 1921, contains the following paragraph:

"The latter years of Dr. Hoskins's life were spent principally as an educator, and he proved successful in this, particularly in securing substantial endowments for his work. His kind sympathetic nature led him to note the sufferings among the poor of the great metropolis where he resided and he became identified with community welfare in the poor sec-

tions of New York City. Through the death of Dr. Hoskins the profession suffers the loss of an outstanding practitioner, higher veterinary education an ardent advocate, the veterinary college an eminent instructor, veterinary literature a valuable contributor, the Bureau of Animal Industry and the Army veterinary service a staunch supporter, the A. V. M. A. a faithful energetic worker, the country a loyal patriotic citizen, and most of us in the profession have lost a dear unselfish personal friend."

Dr. Hoskins's two sons, both Doctors of Veterinary Medicine, are Dr. Cheston M. Hoskins of Philadelphia and Dr. H. Preston Hoskins of Evanston, Illinois. The latter has supplied the data for this biographic sketch.

Design of the Hoskins Medal

The Hoskins Medal is of gold, measuring 63 millimetres in diameter. The medal bears, on the obverse, the figure of the wise centaur, Cheiron, known in Greek mythology as the teacher of warriors. The right hand holds a bandage and the left the cup of knowledge. Around the border are the words: UNITED · STATES · ARMY · VETERINARY · SCHOOL, and to the left the date, 1924. Upon the pedestal upon which Cheiron stands are the initials of the artist, J.R.S. [John R. Sinnock]. The reverse bears a shield with these words:

HOSKINS
MEMORIAL
MEDAL
AWARDED TO

.....

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Space for two lines is provided for engraving the name of the winner and the date, in full, not merely the year. In a wide border about the shield there is an endless branch of laurel leaves.

Major Davis of the Army Medical Museum has recently inspected the plaster matrix from which the Hoskins Medal has been cast. He considers it in such poor condition that it is doubtful whether it can again serve its purpose.

Recipients of the Hoskins Medal

- 1924—First Lieutenant John Harold Kintner (now Lieutenant-Colonel).
- 1925—Captain François Hue Kari Reynolds (now Lieutenant-Colonel).
- 1926—Captain George Jacob Rife (now Lieutenant-Colonel).
- 1927—Captain Harry John Juzek (now Lieutenant-Colonel).
- 1928—Captain Nathan Menzo Neate (now Lieutenant-Colonel).
- 1929—Captain George Leslie Caldwell (now Lieutenant-Colonel).
- 1930—Captain Gerald Woodward Fitzgerald (now Colonel).
- 1931—Captain Raymond Randall (now Colonel).
- 1932—Second Lieutenant Ralph William Mohri (now Major).
- 1933—Second Lieutenant Russell McNellis (now Major).
- 1934—Major Herbert Kelley Moore (now Lieutenant-Colonel).
- 1935—Medal not awarded.
- 1936—First Lieutenant Bernard Francis Trum (now Captain).
- 1937—First Lieutenant William Edwin Jennings (now Captain).
- 1938—First Lieutenant Thomas Carlyle Jones (now Captain).
- 1939—First Lieutenant Don L.* Deane (now Captain).
- 1940—No award. Medal in abeyance for period of the national emergency, regular courses at the Army Veterinary School suspended.

The Hoskins Medal has been awarded fifteen times.

*Initial only; no middle name.

THE McCAMANT MEDAL

(Medical Field Service School)

The McCamant Medal, awarded at the Medical Field Service School, was the gift of Colonel Thomas Jefferson McCamant of El Paso, Texas. The origin and purpose of the medal are best set forth in the letter from the Commandant of the School to the Surgeon-General, asking authorization for the acceptance of the McCamant Medal, at first designed to be a watch fob or charm.

Under date of 22 September 1924, Lieutenant-Colonel Charles Ransom Reynolds wrote to the Surgeon-General as follows:

"Colonel Thomas J. McCamant, Med.-O.R.C., of El Paso, Texas, now a student at the Medical Field Service School desires to present a medal to be awarded this year and hereafter to the member of the six weeks' course who attains the highest mark in Military Hygiene and Sanitation, competition to be opened to regular, national guard and reserve officers of every section.

"The medal is to be in the nature of a watch fob, suitably engraved.

"Authority is requested to authorize Colonel McCamant to make this award."

This request was approved by Major-General Meritte Weber Ireland, Surgeon-General of the Army, as indicated by the following indorsement by his Executive Officer, Lieutenant-Colonel Robert Urie Patterson, 25 September, 1924. By a coin-

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cidence, both Colonel Patterson and Colonel Reynolds became Major-Generals and Surgeon-Generals of the Army in turn.

"1. Granting authority to accept the award of a medal in the nature of a watch fob, to be presented annually by Colonel Thomas J. McCamant, Med-O.R.C., of El Paso, Texas, to the student attaining the highest mark in Military Hygiene and Sanitation at the basic six weeks' course, Carlisle Barracks, Pa."

The first McCamant Medal was from a stock design and was merely a watch fob, but thereafter, a special design having been completed, the medal is comparable to the others of our series.

The following letter of 12 October, 1926, from Dr. McCamant to the Commandant of the Medical Field Service School, gives further information about the terms of the award of the McCamant Medal:

"My dear Colonel Reynolds:

"Your letter of the 6th was received, and I immediately wired you regarding the medal for best grade in military hygiene.

"Last year I had a thorough understanding with Major Stayer regarding this medal and it was definitely understood that the medal was to be presented each year until I had notified the School that I desire to have it stopped.

"I also had a special die made for this medal by the Conlyn Jewelry Store and Mr. C. B. Gray of said store understood that this medal was to be cast each year from this die. After the die had been made and paid for the expense for the medal was very little and consisted of paying for the cast as well as the lettering required thereon.

"I trust that I made my telegram sufficiently plain and that you presented the certificate for the best grade in military hygiene and had Mr. Gray to cast the medal and letter same.

"I wish you would see that this is attended to and that Mr. Gray mails the medal, after completing the same, to the one authorized

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to receive it, and henceforth if you will notify the Director of the Department of Military Hygiene regarding this medal it can be made and lettered and delivered at the graduating exercises. . . .

Yours very truly,
Dr. T. J. McCamant."

Major Stayer, above mentioned, was the Director of the Department of Military Sanitation. He is now Brigadier-General and Health Officer of the Panama Canal.

The McCamant Medal continued to be given as the award for highest class standing in the Department of Military Sanitation, until 1930, when it was discontinued. It was the feeling of the faculty that the course was too short to justify the award of a medal.

Colonel McCamant, Founder of the McCamant Medal

Thomas Jefferson McCamant was born at Glen Rose, Texas, 27 November, 1874. He received the degree of Bachelor of Science at Glen Rose Collegiate Institute, 1896, and the M. D. at Fort Worth (now Baylor) University, *cum laude*, 1902. He became chief of the staff of the City-County Health Hospital of El Paso, 1929, and of the Masonic Hospital, also of El Paso, 1931. From 1916 to 1933 he was Health Officer of El Paso County, Texas, and under his direction the El Paso City-County Health Unit won first place in the Rural Health Conservation Contest, 1934, 1935, and 1936.

He served as a private in the Hospital Corps, U. S. Army, during the Spanish-American War, being

assigned to the Second Division Hospital, Seventh Army Corps, Jacksonville, Florida, and Atlanta, Georgia. At the outset of the World War he organized the 111th Sanitary Train, Thirty-Sixth Division, at El Paso, Texas, and was inducted into the Army in July 1917. Thereafter he was commanding officer, 141st Field Hospital, in training at Camp Bowie, Texas, and overseas for nearly a year. During this period he was in action at the relief of Rheims, 6th to 28th October, 1918.

He was promoted Lieutenant-Colonel, 1919, and returning to the United States in that year, was discharged from the military service at Camp Dix, New Jersey. He continued active interest in the military service and was promoted Colonel, Medical Reserve, August, 1924. He completed the course for National Guard and Reserve Officers at the Medical Field Service School, Carlisle Barracks, 1924, and having attained the highest general average, was awarded the DeVries Medal. (See page 60.)

It was during this course at the Medical Field Service School that he established the McCamant Medal for award to the officer standing highest in Military Sanitation. Colonel McCamant states that he established the medal, "appreciating the efforts of Major M. C. Stayer, [now Brigadier-General], Director of the Department of Military Sanitation."

Colonel McCamant lives at El Paso, Texas, and I am indebted to him for the above biographic information.

Design of the McCamant Medal, First Type

The McCamant Medal awarded in 1924 to Major Richard Emmons Elvins is of gold, and seemingly from a stock pattern manufactured for general use. The design has no particular reference to military hygiene, the subject in which the medal was awarded, and the words, "Military Hygiene" form no part of the design, but are engraved in a blank scroll at the bottom of the medal. The reverse of the medal is plain and bears the inscription in engraved letters, somewhat crudely executed. The medal as first awarded was designed to be worn in civilian clothing as a watch fob or charm.

The medal is circular with wavy edges, and measures 30 millimetres in diameter, from the most distant points of the wavy margin. The design is a burning torch of knowledge in front of an open book, while eight other books, closed, form the background, above which and below the top of the torch are rays extending downward from the flame. Below this design, in an arc which occupies about three-fourths of the circumference of the medal, is an elaborate scroll upon which are engraved the words, MILITARY HYGIENE.

The reverse is plain, bearing only, in small letters, 10K GOLD. The following words are engraved upon the first McCamant Medal, the lines being not horizontal but inclined somewhat to the left:

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MCCAMANT PRIZE
EFFICIENCY IN
MILITARY HYGIENE
WON BY
R. E. ELVINS
MEDICAL FIELD
SERVICE SCHOOL
CARLISLE BARRACKS, PA.
1924

The medal is suspended from a gold ring from which it can be hung from a watch chain or similar fastening. It is of bright finish.

Design of the McCamant Medal, Second Type

The second type of McCamant Medal, or possibly one should say the only one for which there was an individual design, was manufactured by Dieges and Clust of New York to the order of the Conlyn Jewelry Shop of Carlisle, Pennsylvania. This shop has changed hands and no record can be found of the dies.

The medal is circular in shape, suspended from an unwatered blue ribbon. The obverse bears the caduceus, the emblem of the United States Army Medical Department, from the lower part of which branches of oak leaves extend upward in the form of a wreath. To the left of the caduceus is the word MCCAMANT and to the right the word PRIZE. Below, in an arc, are the words FOR MILITARY HYGIENE. The whole is enclosed in a Greek key border.

The reverse of the McCamant medal is plain, appropriately engraved by hand. While it is not

unlikely that the wording varied in the several copies, the following is probably more or less typical: In an arc at the top, the name of the recipient, with the military rank in a straight line below. In the lower half of the reverse these words:

HIGHEST
STANDING
IN
MILITARY
HYGIENE

To the right and left of these words there are scrolls.

The second type of McCamant Medal was clearly a medal comparable to the others awarded at the Medical Department's schools, and not intended for wear as a fob or watch charm.

The McCamant Medal measures 32 millimetres in diameter.

Recipients of the McCamant Medal

- 1924—Major Richard Emmons Elvins, Medical Reserve, U. S. Army (now Lieutenant-Colonel, Medical Corps).
- 1925—Major Harold Everett Eggers, Medical Reserve, U. S. Army.
- 1926—Lieutenant-Colonel Martin Henry Deffenbaugh, Medical Reserve, U. S. Army (now Colonel).
- 1927—Major Edward Fenton Cooke, Medical Reserve, U. S. Army.
- 1928—Major Roy Welles Smith, Medical Corps, Massachusetts National Guard.
- 1929—Major Delwin Morton Campbell, Veterinary Reserve, U. S. Army.
- 1930—Captain Arthur Wesley Knox, Medical Corps, Florida National Guard.

The McCamant Medal was awarded seven times, of which all but the first were of the second type.

THE REA MEDAL
(Army School of Nursing)

The Rea Medal was founded in 1925 by Mrs. Henry Robinson Rea (Edith Oliver Rea) of Pittsburgh for award at the Army School of Nursing, Walter Reed Hospital, Washington. Its creation was one of the many acts of beneficence on the part of Mrs. Rea in connection with the training of nurses for the United States Army.

Mrs. Rea, Founder of the Medal

Edith Oliver, born in Pittsburgh, 17 November, 1865, is the widow of Henry Robinson Rea (1863-1919), director of many important Pittsburgh corporations and a dollar-a-year man during the World War.

Mrs. Rea, on account of poor health, did not take an active part in war work until after the United States entered the World War. Since that time her activities on behalf of service men and women have been of enormous extent and variety. She was a member of the Board of Incorporators of the American Red Cross, and served for twenty years as a very active member of the Central Committee. She did active work in Washington during the war as chairman of the Comfort Section of the District of Columbia Chapter. Mrs. Rea and her mother defrayed the greater part of its incidental expenses. In 1918 the American Red Cross built a convalescent house at the Walter Reed General Hospital, in which Mrs. Rea, who had been made Field Director,

furnished the ground floor as a gift to the service men. Mrs. Rea was the first woman Field Director of the American Red Cross and the only one during the World War.

Some of the works and gifts of Mrs. Rea are these: The Memorial Chapel at Walter Reed Hospital, in honor of all service men and women. She underwrote the entire cost (\$32,000) for the American Red Cross and in person turned over the first spadeful of earth for the building, 1929. In 1919 she gave the hospital its large swimming pool. In the same year she gave greenhouses to the hospital. She was largely instrumental in obtaining the gift by the American Red Cross of the fine recreation building at the Army Medical Center, 1927. She gave sound equipment for the hospital's motion picture theatre, and greatly assisted in the provision of athletic equipment for the men.

Particularly interested in the work of U. S. Army nurses, she worked untiringly for the passage of the bill to give them military rank, which they now enjoy. She offered a scholarship of \$1500 to a graduate of the Army School of Nursing, for the advanced instruction of a graduate selected for her education, training and personality. This scholarship was awarded, 1924, to Miss Barbara M. Price of Rochester, New York, who received a year's training in the Department of Nursing and Health, Teachers College, Columbia University.

Mrs. Rea lives at Sewickley, Pennsylvania, where she has had her country home for many years.

Eligibility for the Rea Medal

Mrs. Rea established the medal which bears her name in 1925. It is accompanied by an honorarium of five hundred dollars, being the only medal awarded at any school of the Army Medical Department which has this additional prize. The Rea Medal was established to honor "that member of the graduating class of the Army School of Nursing whom the faculty consider has shown the greatest aptitude for her work, not only for the lessons learned from books, but also for human understanding, unfailing cheerfulness, and optimism found everywhere during time of stress, but which are much rarer now without the exaltation and excitement of war."

The medal was struck by Tiffany and Company, New York, from dies of their manufacture. Possibly sketches by Miss Elizabeth Will, an Occupational Therapy Aide at the Walter Reed Hospital, may have been used in part in the preparation of the design by Tiffany and Company.

The Rea Medal is, of course, not at present awarded, since the Army School of Nursing is not now functioning. But neither the School nor the Rea Medal is abolished. Should the exigencies of the military service make necessary the reopening of the Army School of Nursing, the Rea Medal will again be awarded to the honor student in each class.

Design of the Rea Medal

The Rea Medal is of gold, measuring 38 millimetres in diameter, suspended from a deep red ribbon of

unwatered silk. The obverse of the medal bears the kneeling figure of Hygeia, facing right, and holding in her hands the cup of knowledge. In an arc above are the words: ARMY · SCHOOL · OF · NURSING · Below, on a tablet, two straight lines with the words:

WALTER REED
GENERAL HOSPITAL

The reverse bears the words:

REA
MEDAL
FOR
BEST ALL ROUND
STUDENT NURSE

below which is a tablet for the name of the recipient, and below the tablet the insignia of the Army School of Nursing, namely, the caduceus charged with a lamp, in allusion to the lamp of Florence Nightingale, which caused her to be called "The Lady of the Lamp" by the British soldiers, at the time of her nightly visits to the beds of the wounded and sick in the Crimean War. The whole of the reverse is surrounded by an endless branch of ivy. The ribbon of the medal is suspended from a gold bar bearing a branch of ivy in the center of which is a small circle charged with the letter *R*.

Recipients of the Rea Medal

- 1925—Second Lieutenant Gertrude Clarinda Wilson.
- 1926—Second Lieutenant Barbara Miller.
- 1927—Second Lieutenant Myrtle Page Hodgkins.
- 1928—Second Lieutenant Antoinette Price.
- 1929—Second Lieutenant Malvina Mary Grieves.
- 1930—Second Lieutenant Mary Duff (now First Lieutenant).
- 1931—Second Lieutenant Beulah Marie Putman.
- 1932—Second Lieutenant Mary Elizabeth Vetter.

With the closing of the Army School of Nursing the Rea Medal fell into abeyance. It was awarded eight times. Of the eight recipients only Lieutenants Duff and Putman are still in the military service. Both are stationed at Fort Sam Houston, Texas.

THE MCKINNEY MEDAL (Medical Field Service School)

The McKinney medal was established by the gift of Colonel, then Major, Garfield Lesley McKinney, Medical Corps, U. S. Army. His connection with the Medical Field Service School has been intimate. He has been the commander of the First Medical Regiment there stationed and has directed the Medical Equipment Laboratory, wherein are developed apparatus and appliances for use by the Medical Department in the field.

Colonel McKinney, long interested in the training of the enlisted men of the Medical Department, offered to establish a medal to be awarded annually to the non-commissioned officer standing first in the Non-Commissioned Officers' Course at the Medical Field Service School.

Colonel McKinney's letter to the Surgeon-General, forwarded with the approval of the Commandant of the Medical Field Service School, made the offer on 8 October, 1926. Here is the letter in full:

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"Carlisle Barracks

October 8, 1926

"SUBJECT: Medal for award in the Non-Commissioned Officer's Course, Medical Field Service School.

**"TO: The Surgeon General, U. S. Army
(through the Commandant, Medical Field Service School).**

"1. As the Non-Commissioned Officers' School appears now to have become one of the established annual courses given at the Medical Field Service School, and having personally had the opportunity of closely observing 3 classes of non-commissioned officers go through this school, it is my opinion that it will be appropriate and advisable to award, upon graduation, a suitable medal to that student who in certain respects stands first in his class. Medals are now awarded in some of the other courses given at this school, and I believe that a medal for the Non-commissioned Officers' School will act as an incentive to increased efforts to many in each class, as well as tending to increase the dignity of the course and elevate its standards.

"2. If it meets with approval, I would like to institute a gold medal to be awarded to one student in each Non-commissioned Officers' Class of the Medical Field Service School, beginning with the class now pursuing this course of instruction, I to bear all expenses incident to the designing and casting of the first medal and thereafter the cost of the medal awarded in each subsequent annual class. The medal to be of gold, as artistic and attractive in design and inscription as any now awarded to other classes at this school.

"3. Conditions under which medal is to be awarded:

a. To be awarded only to the regular, annual Non-Commissioned Officers' Course of the Field Medical School open to the enlisted men of the Medical Departments of the Regular Army (from all stations), the National Guard, and the Organized Reserves if that component of the Army of the United States should later be received at this school.

b. Non-Commissioned officers of the Medical Departments of the Regular Army, the National Guard, and the Organized Reserves to be each equally eligible for the medal.

c. The medal to be awarded to the student standing highest on the following basis:

Scholarship, as shown by his class standing—to count one-half.

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Conduct at the school, soldierly bearing, and leadership—to count one-half.

d. The winning student to be selected by the faculty of the Non-Commissioned Officers' Course, including the Commandant.

e. The medal to be awarded only for those sessions to which at least a minimum of two months of full time are devoted, and in which there are at least 264 hours of scheduled instruction, exclusive of any time which may be devoted to athletics."

G. L. McKinney,
Major, Medical Corps

Colonel McKinney's desires as to the design of the medal are thus set forth in a letter that he wrote to a number of manufacturers, dated 20 October, 1926.

"3. Data for the medal:—

a. Medical Field Service School

b. United States Army

c. McKinney Medal

d. Figure in relief—of a Medical Department soldier rescuing a wounded infantryman in battle. Both figures to be in regulation field uniform including helmet. Medical Department soldier should be so placed as to show Red Cross brassard on left arm. Possible combinations: The infantryman recumbent and Medical Department soldier kneeling and applying first aid to the wounded man; wounded man semi-erect leaning backward and being supported by the Medical Department soldier; wounded man walking, supported around the body by right arm of the Medical Department soldier, the wounded man's left arm being around the neck and shoulders of the Medical Department soldier. These are offered only as suggestions of what we have in mind.

The figures should be clear-cut, animated, life-like, and the idea of the actual presence of battle should be indicated.

Reverse:

a. Non-Commissioned Officers' Course.

b. Name (Place for name).

c. Awarded for

d. Scholarship—Conduct—Soldierly bearing—Leadership

e. Year (1926).

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"4. It is desired that the medal does not exceed the diameter of a silver dollar; if it is possible to hold it down to that size without prejudicing the clearness and artistic features of the medal.

"5. Please state price, (a) for the first medal including dies and designing, and (b) cost of each medal subsequent to the first one.

"6. If you wish to bid on this piece will you kindly inform me at your earliest convenience, as it is desired to make the award of the first medal during the last week of next month.

"7. Would like to have a sketch of the medal (observe and reverse) showing your ideas of the best arrangement of the data given you above in par. 2, including such scroll, wreath, or other decorative features as you may consider advisable to add.

Very truly yours,

G. L. McKinney,
Major, Medical Corps, U. S. Army

Colonel McKinney's offer was accepted by the Surgeon-General, Major-General Merritte Weber Ireland, on 20 October, 1926. Colonel McKinney gave the contract to produce the medal to Dieges and Clust, New York. The McKinney Medal has been manufactured by this firm ever since. It has been awarded fifteen times.

Colonel McKinney, Founder of the Medal

A native of Scranton, Pennsylvania, Garfield Lesley McKinney was born on 31 July, 1881. He received his education at the University of Pennsylvania, graduating a Doctor of Medicine in 1906. At that time a candidate for admission to the Medical Corps of the United States Army had to serve as a Contract Surgeon (Acting Assistant Surgeon) while pursuing the course at the Army Medical School. Upon graduation, if accepted for the service, he received his commission. McKinney was

appointed a Contract Surgeon on 20 September, 1907 and graduated at the Army Medical School in the following year. On 13 June, 1908 he was commissioned First Lieutenant, Medical Corps, U. S. Army.

In the year of his graduation he was sent to the Philippine Islands for duty, where he was stationed at Camp Stotsenberg, Island of Luzon. He returned to the United States in October 1910 and for the next sixteen months was on duty at Letterman General Hospital in San Francisco. From 1912 to 1914 he was Surgeon (i.e. the senior medical officer) at Fort Caswell, North Carolina. From the middle of 1914 until the end of April 1915 he commanded Ambulance Company No. 8, Galveston, Texas. There began his long connection with field experience and training of Medical Department units. He continued on this duty until after the United States entered the World War, the unit having been transferred to the Canal Zone in 1915.

McKinney, who had been promoted Captain in 1911, became a Major in 1917. During the period of America's participation in the Great War, Major McKinney had three important assignments: Sanitary Inspector, Camp Grant, Illinois; Surgeon of the Port of Embarkation at Charleston, South Carolina; and Surgeon of the large Cantonment Camp, Camp Pike, Arkansas. In September 1919 he was sent overseas for duty with the American Forces in Germany. On the Rhine he was stationed at Andernach, Mayen, Neuwied, and Coblenz. He spent much of his spare time during this period in

the study of German, becoming fluent in his reading and speaking knowledge of the language.

Back in the United States in 1922, Lieutenant-Colonel McKinney (he had been given that temporary rank in 1918) was assigned as a student at the Command and General Staff School, Fort Leavenworth, Kansas, being one of the first medical officers to receive this special training. He was, after graduation, assigned as Director of the Department of Training, Medical Field Service School, Carlisle Barracks, Pennsylvania, at the same time being commanding officer of the First Medical Regiment.

At the time of its organization in 1925, he was given the added duties of Director of the Carlisle Barracks Non-Commissioned Officers' School. He continued on this work until 1928, in which year he attained the permanent grade of Lieutenant-Colonel. His interest in the field training of the medical soldier resulted in his establishment of the McKinney Medal at this time.

From July 1928 to July 1929 he was a member of the War Department General Staff, relinquishing this assignment to become the head of the Planning and Training Division, Office of the Surgeon-General, War Department. He remained on this duty until the autumn of 1931 when he entered the Army War College as a student, graduating in the following year and likewise completing the Field Officers' Course at the Chemical Warfare School in the same year.

From September 1932 to January 1933 he was Commandant of the Medical Field Service School.

He continued on duty at Carlisle Barracks until 1939 as Director, Medical Department Equipment Laboratory. From that year until 1940 he was once more in the Surgeon-General's Office as Chief of the Planning and Organization Section, Planning and Training Division. On 5 February, 1940 he became Surgeon of Camp Joseph T. Robinson, Arkansas (known as Camp Pike during the World War), and is at present on this duty. He became a Colonel on 13 June, 1934.

Design of the McKinney Medal

The McKinney Medal was designed in accordance with the description submitted by Colonel McKinney at the time he established the medal. It is of gold, 37 millimetres in diameter, suspended from a ribbon of watered silk of three equal stripes, red-white-blue. The ribbon hangs from a concealed pin. The obverse bears in a circle a medical soldier bending over and ministering to a wounded infantryman half reclining on the ground. The infantryman's rifle lies nearby. In an arc above are the words: MEDICAL · FIELD · SERVICE · SCHOOL .; and below: U · S · A ·. On a rectangular tablet at bottom of circle the words: MCKINNEY MEDAL. The reverse bears a wreath of laurel leaves upon which are four tablets. To the left the two tablets bear, respectively, the words: SCHOLARSHIP and MILITARY BEARING, while the two tablets at the right are, respectively, charged with the words: CONDUCT and LEADERSHIP, these being the four bases for the award of the medal.

Above in two arcs are the words: **NONCOMMISSIONED OFFICERS' COURSE**. The space in the middle of the reverse is for the name and rank of the winner of the medal. Like the other medals awarded at the schools of the Medical Department of the Army, this one may not be worn on the uniform.

Recipients of the McKinney Medal

- 1926—Technical Sergeant John N. Bailey.
- 1927—Staff Sergeant Ethan Wells.
- 1928—Staff Sergeant Ralph L. Hendrix.
- 1929—Staff Sergeant Joseph Carmack.
- 1930—Staff Sergeant Armin E. Berger (Oregon National Guard)
- 1931—Staff Sergeant Henry D. Field
- 1932—Sergeant Joe K. Carter.
- 1933—No class held.
- 1934—Staff Sergeant Earl P. Hall.
- 1935—Sergeant Robert G. Henerrey.
- 1936—Sergeant John E. Merriken.
- 1937—Sergeant Clyde W. Henderson
- 1938—Sergeant Joseph E. Englehardt.
- 1939—Sergeant Robert E. Selwyn.
- 1940—Technical Sergeant Jack Bradley.
- 1941—Sergeant Harry A. Goldstone.

The McKinney Medal has been awarded fifteen times.

The Bresnahan Sabre

This prize, formerly awarded at the Medical Field Service School, is mentioned here since, though not of numismatic interest, it represented the same sort of academic attainment for which medals are otherwise awarded at this and other schools of the Medical Department of the Army. It was awarded seven times.

Major John Francis Bresnahan, Medical Reserve, U. S. Army, donated the sabre to the Medical Field Service School for award to that student of the Officers Course for National Guard and National Reserve Officers "attaining the greatest proficiency in leadership, drill and command, and soldiering." The Bresnahan Sabre, now discontinued, is won by the following Reserve and National Reserve Officers:

- 1924—Lieutenant-Colonel Herbert Hammond Ogburn, Medical Reserve, U. S. Army.
- 1925—Not awarded.
- 1926—Lieutenant-Colonel John Freemole Orlando Howland, Medical Reserve.
- 1927—Major George Edward Webb Hardy, Medical Reserve, Florida National Guard.
- 1928—Captain Carrol Dandola Evans, Medical Corps, National Guard.
- 1929—Captain Simon Wayne Alford, Veterinary Corps, National Guard.
- 1930—Major William Davidson Hennen, Medical Corps, New York National Guard.
- 1931—Major Harry H.* Hammell, Medical Reserve, U. S. Army.

The First Division Prize

Though not a medal, and therefore not included within the scope of this monograph, the First Division Prize of the Medical Field Service School is mentioned, since it is awarded in the same manner as one of the medals already described.

The donor is a civilian, who insists that his name be never revealed, but who the Commandant of the Medical Field Service School announced as

*No middle name; initial only.

had rendered excellent service to the American Expeditionary Forces in France as a Director of Red Cross activities. In 1928 he established a trust fund of one thousand dollars at the Farmers Trust Company of Carlisle, Pennsylvania, the income on which is used to purchase a watch, costing approximately thirty-five dollars. The watch is presented to that student graduating in the Basic Class at the Medical Field Service School "who excels in military art in medical field service, and who, in the opinion of the faculty, is best qualified for service with a medical regiment."

The First Division Prize, a name given it by the donor, has been won by the following officers:

- 1929—Captain Harry Aloysius Bishop (now Lieutenant-Colonel).
- 1930—First Lieutenant Roger Gaylord Prentiss (now Lieutenant-Colonel).
- 1931—First Lieutenant Matthew Corell Pugsley (now Major).
- 1932—First Lieutenant Robert Edwin Peyton (now Major).
- 1933—First Lieutenant Francis Patrick Kintz (now Lieutenant-Colonel).
- 1934—Captain Robert Barrett Skinner (now Major).
- 1935—First Lieutenant James Leslie Snyder (now Major).
- 1936—First Lieutenant Howard Fletcher Currie (now Major).
- 1937—First Lieutenant Raymond Edward Duke (now Major).
- 1938—Captain Weldon Kenneth Ruth (now Major).
- 1939—Captain Paul Alexander Paden (now Major).
- 1940—(First Class)—First Lieutenant Robert McAllister Davis (now Major).
- 1940—(Second Class)—First Lieutenant Rolland Bernard Sigafos (now Major).
- 1940—(Third Class)—Captain Wendell Playfair Harris.
- 1941—Prize in abeyance during the existence of the national emergency.

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*Suspension of Issuance of Medals
and Prizes*

The following letter, dated 31 October, 1941, directed to Commandant, Medical Field Service School, Carlisle Barracks, Pennsylvania, by the Surgeon-General of the army:

“In view of the fact that the regular courses of the Medical Field Service School will be suspended during the present class, it is desired that the issuance of medals and prizes be discontinued during the period of such suspension.”

PART II

MEDALS OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

History of The Association of Military Surgeons

The Association of Military Surgeons is the oldest of the several associations maintained by the various branches of the United States Army, such as the Field Artillery Association, the Society of American Military Engineers, the Cavalry Association, the Infantry Association, the Quartermaster Association, etc. It was founded in Chicago on 17 September, 1891. It celebrated its Golden Jubilee in 1941 (for its history, see *The Military Surgeon*, September, 1941, lxxxix, 242-594).

By means of its annual meetings and its journal devoted to military medicine it has been able to render the United States a great and lasting service. Its membership is drawn from the Medical Department of the United States Army, that of the United States Navy, the National Guard, the Organized Reserves, the United States Public Health Service, the Veterans' Administration and the Indian Medical Service (Department of the Interior).

The Association's periodical has been known, in turn as the *Transactions of the Association of Military Surgeons of the National Guard*, *The Proceedings of the*

Annual Meetings of the Association of Military Surgeons of the United States, The Journal of the Association of Military Surgeons of the United States, and The Military Surgeon. This last title has been used since 1907. The volumes, however, have been numbered serially from the first in 1891. The journal has been a monthly since 1907.

The Association has offered four valuable medals, two accompanied by an honorarium. The Enno Sander Medal was awarded 1900-1908, inclusive, and the Wellcome Medal since 1916, including that year. Another medal, the Gorgas Medal, though announced as a prize and the die made, was never awarded. The Founder's Medal, created in 1941, is awarded from time to time. These medals will be described in turn.

THE ENNO SANDER MEDAL

At the annual meeting of the Association of Military Surgeons of the United States in 1899, the Association's founder, Surgeon-General Nicholas Senn of the Illinois National Guard, announced that Major Enno Sander of St. Louis, a charter member of the Association, had signified his intention to donate annually a prize of one hundred dollars and a gold medal to be awarded to the author of the best essay written upon an approved subject by a member of the Association. Major Sander, who had been an officer of United States Volunteers during the War Between the States, stipulated that the subject of the contest be in the field of military medicine.

The Association gratefully accepted Major Sander's gift and decided that there be constituted a Standing Committee on the Enno Sander Prize, charged with the duty of selecting a subject for the contest each year. There was also created a Board of Award to judge the essays and determine the winner. The essays were required to be submitted under a *nom de plume* and the envelope marked with such *nom de plume* and containing the name of the author, to be opened at the annual meeting and the winner announced by the President of the Association.

Major Sander further asked that the medal be withheld if, in the opinion of the judges, no essay were of sufficient merit to warrant the prize. The essay adjudged second best was to be given Honorable Mention and the author made a life member in the Association. Both the winning essay and that given Honorable Mention were published in *The Military Surgeon*, the monthly journal of the Association.

The first Enno Sander medal was awarded in 1900 and the essay published in the following year. Between that year and 1908 the medal was awarded seven times. In 1909 Major Sander withdrew his offer of the medal.

Dr. Sander, Founder of the Medal

Dr. Enno Sander, the celebrated pharmacist, had one of the most unusual careers of any of his profession in the United States. Born on 26 February,

1822 in the village of Trinum, near Koethen, in Anhalt, Germany, he was the son of Karl Frederick Sander and Emilia Palm, his wife. He was educated at the gymnasia of Zerbst, Eisleben and Koethen, the University of Berlin and the University of Halle, at which last he received his doctorate in 1847. Fifty years later the university conferred on him her golden diploma.

In 1848 he was a member of the Constitutional Assembly of his native state, and in 1849 was made Assistant Minister of War in Baden. He was involved in the Baden Revolution and was sentenced to ten years of solitary confinement. In 1850, however, having been pardoned and exiled, he came to the United States.

In 1853, he opened a pharmacy in St. Louis, in 1854 a second, and in 1865 a third. For thirty years, 1865–1894, he conducted an analytical laboratory in St. Louis. He was one of the founders of the St. Louis College of Pharmacy. During 1871–1874 he was professor of materia medica and botany, having reorganized the school after it had been closed for two years. In 1902 it conferred upon him the title of Professor Emeritus of Materia Medica and Botany, in recognition of his services to the study of pharmacy and collateral sciences.

Dr. Sander served in the War Between the States as Major and Brigade Quartermaster on the staff of General John B. Gray of St. Louis. He was usually known by his title of Major thereafter.

“American pharmacy owes Dr. Sander a debt of

gratitude for having been largely instrumental in introducing into this country the study of systematic pharmacognosy . . . " (*Journal of American Pharmaceutical Association*, March 1912, i, 269.) He was an inventor, patenting a medical chest (1868), a chemical fire extinguisher (1869), and an aërated water still (1904).

In his eightieth year, he erected a mineral water factory with all modern devices, including those of his own invention. It was the best plant of its kind in the West. In 1904 it was incorporated as the Enno Sander Mineral Water Company. He gave it his personal attention until it was sold in 1912, not long before his death.

Major Sander held membership in many scientific societies, in the field of pharmacy and in others as well. He was a President of the American Pharmaceutical Association. He wrote a number of important papers on mineral waters and other subjects, published in the American and European press.

Major Sander died at St. Luke's Hospital, St. Louis, 12 February, 1912. He was unmarried, having pathetically described himself at a dinner held in his honor on his eightieth birthday as "an eighty year old bachelor without a relative in the whole country." He was much beloved and respected by his professional colleagues and others.

Design of the Enno Sander Medal

The Enno Sander Medal was a piece of massive gold, manufactured by Shreve and Company of San

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Francisco. The diameter is 53 millimetres. obverse bears the effigy of the donor, Major Sander, facing to the right. Above in large are the words: ★ DEDICATED · BY · DR · ENNO DER ★ and below, in an arc, are the words: ST. LOUIS · MO. The reverse bears the Cross and below these words:

FOR BEST PAPER ON
MILITARY SURGERY



THE NATIONAL ASSOCIATION
OF MILITARY SURGEONS
OF THE UNITED STATES
TO

.....

The name of the winner is engraved on a rectangular tablet at the lower part of the reverse, which there are two five-pointed stars. Behind the tablet and showing above and below it is a branch of laurel leaves. Immediately below the tablet, in tiny letters, is the maker's name: SHREVE & CO.

It is interesting to note that the name of the association is incorrectly given as "The National Association of Military Surgeons of the United States." The word "National" does not occur in the Association's title.

Winners of the Enno Sander Medal

1900—Captain William Cline Borden, Assistant Surgeon, Army, for his essay: "Military Surgery" (1901, ix, 190–23)
1901—Not Awarded.

*The bibliographical references are to *The Surgeon*; viz., the year, volume and pages of the edition of the winning essay.

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1902—Lieutenant-Colonel Valery Havard, Deputy Surgeon-General, U. S. Army, for his essay: "The Most Practicable Organization for the Medical Department of the United States Army in Active Service" (1902, xi, 73-93; 170-187).

1903—Major Frederick Smith, D. S. O., Royal Army Medical Corps, (British) for his essay: "The Differential Diagnosis of Typhoid Fever in its Earliest Stages" (1903, xvi, 69-94; 166-178).

1904—Lieutenant-Colonel William Hill-Climo, Army Medical Staff, retired, (British) for his essay: "The Relation of the Medical Department to the Health of Armies" (1905 xvi, 255-274; 350-359).

1905—Not Awarded.

1906—Major James Evelyn Pilcher, U. S. Army, retired, for his essay: "The Training of the Medical Officer of the State Forces to Best Qualify him for Local Service and for Mobilization with National Troops" (1907, xxi, 1-31).

1907—Major Charles Lynch, Medical Corps, U. S. Army, for his essay: "What is the most Effective Organization of the American National Red Cross for War, and What Should be its Relation to the Medical Department of the Army and Navy?" (1907, xxi, 397-426).

1908—Passed Assistant Surgeon William Colby Rucker, U. S. Public Health and Marine Hospital Service for his essay: "The Relation of the Military and Naval Forces of the United States to Public Health" (1908, xxiii, 333-360).

1909—The Enno Sander Medal abolished.

THE GORGAS MEDAL

The records of the Association of Military Surgeons are incomplete, due to the moves of its offices in the past. The only written information available as to the Gorgas Medal is in the Minutes (manuscript) of the Executive Council of the Association. Under date of 29 March, 1916, we read:

"The Medical Reserve Corps of New York has established a prize known as the Gorgas Medal. This is open to everybody in the Association of Military Surgeons."

The terms of the prize are not given. Colonel

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Richard Slee of White Plains, New York, the owner of the Sternberg and Slee Medals at the Army Medical School (see above) remembers something about the plan to create the Gorgas Medal. After the plan had been made there was a delay, for some reason in making the first awards. It was planned to present the medal as a prize for the best essay on an approved topic, thus being similar to the Enno Sander Medal and the later Wellcome Medal. However, though at least one essay was submitted in 1916 or 1917, the medal was never awarded.

Design of the Gorgas Medal

In *The Military Surgeon* for November (xxxix, no. 5, 491) there is a photograph of the Gorgas Medal. It exists in but one copy, as far as is known. This is the one presented to General Gorgas himself. It is in the United States National Museum in the collection of Gorgasiana deposited there by the General's family. It is of eight karat gold, one and five-eighths inches in diameter. The obverse bears the effigy of General Gorgas facing to the left. In the margin are the words: ASSOCIATION OF MEDICAL RESERVE CORPS, U. S. ARMY, N. Y. STATE DIV. Below the bust of General Gorgas are the words: GORGAS MEDAL. The reverse bears within a laurel wreath, the inscription:

PRESENTED TO
.....
FOR ORIGINAL RESEARCH
IN PREVENTIVE
MEDICINE

The space at the end of the inscription is obviously for the date.

There is a possibility of the revival of the Gorgas Medal, which, though an appropriate award, had such an unfortunate beginning. It is understood that a group of interested persons may offer to endow the medal and to have it awarded by the Association of Military Surgeons in recognition of outstanding contributions to scientific advances in preventive medicine.

THE WELLCOME MEDAL

The Wellcome Medal was established by the late Sir Henry Wellcome of London, an American by birth, a distinguished pharmacist and manufacturer of pharmaceutical products. The medal was established before Sir Henry received his knighthood and therefore bears the legend THE HENRY S. WELL-COME MEDAL.

Sir Henry thus wrote to the President of the Association of Military Surgeons of the United States in 1916:

“Desiring, as I do, to further medico-military research, I hope I may in some way aid your Association in the development of the proposed military and naval sanitary measures which are necessary to meet the needs of the new American Army and Navy. I venture to submit to the Association of Military Surgeons of the United States the following offer:

“Personally I shall be very pleased to contribute each year a gold medal and \$300 as first prize, and a

silver medal and \$200 as a second prize, to be awarded annually by the Association for the best and second best researches, discoveries, inventions, designs, improvements, essays or any other acts or deeds which the Executive Council of the Association may consider desirable and helpful to the objects of the Association and relating to any phase of medico-military affairs and disease control associated with the Army, Navy, Militia and Public Health and Marine Hospital Service in times of peace and war, at home and abroad. These two awards to be made according to merit, and the competition to be open to any member of, or person eligible for membership in, the Association of Military Surgeons of the United States."

The Association thankfully accepted Mr. Wellcome's offer and the Wellcome Prize and Medal were duly established. It will be observed that the terms of the prize contest are similar to those above described for the Enno Sander Prize and Medal, except that the honorarium is considerably larger for the Wellcome Prize.

The Wellcome Silver Medal and accompanying Prize were not for the second best essays in the contest for which the Wellcome Gold Medal and Prize were offered. In only one year has the same subject been announced for the two contests. The second best essay in each contest won the author Honorable Mention and a life membership in the Association. Thus the two Wellcome Medals must be considered as distinct prizes.

For the years 1916 to 1926 inclusive both the Gold Wellcome Medal and the Silver Wellcome Medal were awarded under the above provisions. In 1927, with the approval of Sir Henry, the Association announced the abolition of the Wellcome Silver Medal. Thenceforth the Gold medal only was awarded and the honorarium of \$200 formerly accompanying the Wellcome Silver Medal was added to that attached to the Wellcome Gold Medal, making the combined honorarium \$500.

The Wellcome Silver Medal was awarded but six times. In five of the years between 1916 and 1926, when the Wellcome Silver Medal was in existence, no award was made. The Association found that contestants had to devote as much time and effort to the essays for the Wellcome Silver Medal as for the Wellcome Gold Medal, so that in some years all essays were entered for the higher award. From a numismatic standpoint it is not impossible that the silver medal may become of greater value than the gold, because the gold medal, having already been awarded twenty-four times (including 1941), continues to be presented annually, while the silver medal is already obsolete.

It should be mentioned that the endowment of the Wellcome Medal and Prize was but one of Sir Henry's generous gifts to military medicine. Shortly before he established this medal he offered a prize of ten thousand dollars for the best design for a military ambulance.

The Wellcome Prize contest is conducted under

the same regulations as those for the Enno Sander Medal, which went out of existence seven years before the Wellcome Medal was created. The essays are submitted under a *nom de plume* and the winner is not known until the envelope marked with such *nom de plume* is opened and the name found within. At first, five judges were appointed by the Executive Council to pass on the essays submitted. Later it was arranged that the judges should be the five vice-presidents of the Association. The essays must, therefore, be submitted in quintuplicate. All essays submitted become the property of the Association and the winning essay and the second best (honorable mention) are published in *The Military Surgeon*.

In December 1941 the American representative of the Wellcome Foundation, which since Sir Henry Wellcome's death has carried out his wishes concerning the presentation of the Wellcome Medal, notified the Association of the destruction of the dies for the Wellcome Medal. This unfortunate loss occurred during one of the German air attacks on London. The Foundation therefore announced that no more Wellcome Medals could be presented during the present war. They added, however, that as soon as peace is restored, new dies will be prepared and medals presented not only to all future winners, but likewise to those, beginning with Lieutenant-Commander Behnke in 1941, who have already won but not received the Wellcome Medal. The only remaining copy of the medal from the original dies

is being kept as a model. When the new dies are made the matter of a possible alteration of the design may come up. The original die bore the legend "The Henry S. Wellcome Medal." Possibly a new one will bear the words "The Sir Henry Wellcome Medal." The decision must wait.

A certificate attesting the award of the Wellcome Medal is now being prepared by Sir Henry's representative in the United States. It will be presented to all past and future winners of this prize.

Sir Henry Wellcome, Founder of the Medal

Henry Solomon Wellcome was born in 1853 in a log cabin near Almond, Wisconsin, the son of an itinerant missionary. Of this he always spoke with pride.

At an early age he began his career as a pharmacist in Rochester, Minnesota, where he worked from 1868 to 1871. It was there he came under the notice of Dr. William Worrall Mayo, father of the famous brothers Mayo, founders of the Mayo Clinic. At a gathering in Rochester in 1935, Sir Henry paid public tribute to the man who gave him his start. He said: "I owe whatever success I have attained in the world to Dr. William Worrall Mayo."

The senior Dr. Mayo encouraged young Wellcome to study pharmacy, and later arranged for his matriculation at the Chicago College of Pharmacy. At the age of twenty-one he was graduated as a member of the class of 1874—in the days of Proctor, Maisch, Bridges and Remington.

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The subject of Sir Henry's graduation thesis Philadelphia College of Pharmacy was *Suppos* in which he announced a new and improved The new design received recognition in various books of pharmacy. Since the shape of suppos had come down through the centuries with change, the designing of a new and improved was an early indication of his creative instinct.

It may be said that his bent of mind to originality played a very important part during years in the development of his career.

Following his graduation from Philadelphia College of Pharmacy, Sir Henry spent a few years in retail drug business in New York. Later he held a position in the firm of McKesson and Robbins.

He left New York for London, and in 1881 joined the late Silas M. Burroughs, established the firm of Burroughs, Wellcome & Co., manufacturers of chemicals and galenicals. In addition to the London organization, the firm has establishments in the United States, Italy, Canada, Australia, China and other countries.

Sir Henry's American interests were widely varied. A life member of the American Pharmaceutical Association since 1875, he took an active interest in its scientific work. In 1934, when the Washington headquarters building was dedicated to the American Institute of Pharmacy, he was elected Honorary President of the American Pharmaceutical Association and was awarded the Remington Medal for his scientific and other valuable contributions.

tions to pharmacy. He was an Honorary Member of the Association of Military Surgeons of the United States and was also a member of the Archaeological Society of Washington and the American Society of Tropical Medicine.

As a result of the Sir Henry's experience and interest in tropical research, the Secretary of War, Hon. J. M. Dickinson, appointed him to visit Panama and make a survey of sanitary conditions and methods. His unbiased report of this survey helped to secure a free hand for General Gorgas in continuing his monumental sanitary work in the Isthmus. Many years later Sir Henry became a director of the Gorgas Memorial Institute of Tropical and Preventive Medicine.

On one of his expeditions to the Sudan, Sir Henry discovered several prehistoric Ethiopian Archaeological sites in the Upper Nile region. Excavation was conducted under his personal supervision, with a technical and administrative staff of twenty-five Europeans and three thousand native workmen.

Sir Henry Wellcome's scientific achievements ranged from pioneering in the use of aërial photography in archaeological surveys to the establishing of a number of research institutions. He received wide recognition for his work.

During the first World War, Sir Henry placed his scientific institutions at the service of the British Government. He instituted a commission to improve design and construction of army ambulances. For use in Egypt and Palestine during the war, he

constructed, equipped and supplied a chemical bacteriological motor field laboratory for the Army Medical Service. It was at this period he became a British subject by naturalization.

In recognition of his Life's work and support of medical research he was knighted by George V in 1932. He received the LL.D. of the University of Edinburgh, 1928; Sc.D. of the University of London, 1936; the cross of *Officier de l'Ordre d'Honneur*, 1936 and Commander of the Order of the Spanish Republic in the same year.

He was a fellow of the Royal Society, Honorary Fellow of the Royal College of Surgeons of England, Officer of the Order of Saint John of Jerusalem in England and Doctor *honoris causa* of the University of London.

Apart from the experimental research laboratory of Burroughs, Wellcome & Co., which have to their credit an immense number of important researches, Sir Henry established the following scientific Institutions:

The Wellcome Psychological Research Laboratory, London (1894)

The Wellcome Chemical Research Laboratory, London (1896)

The Wellcome Tropical Research Laboratory, Khartoum, Anglo-Egyptian Sudan, Upper Nile (1901) and fully equipped Floating Tropical Research Laboratory, Upper Nile and tributaries (1906)

The Wellcome Bureau of Scientific Research, London (1913) and the Museum of Tropical Medicine, London (1913)

Science, including Tropical Medicine and Hygiene (1914) and Auxiliary Entomological Research Laboratory, Claremont, Surrey (1915)

His endowment of the Wellcome Medals and Prizes, through the Association of Military Surgeons of the United States, of which he was an Honorary Member, may justly be said to have brought out an enormous amount of information of value to the medical department of the several federal military services.

Sir Henry died in London, 25 July, 1936.

Design of the Wellcome Medal

The Wellcome Gold Medal and the Wellcome Silver Medal are of identical design, being struck from the same dies. The medals were struck by Elkington and Company, Ltd., of London.

The Wellcome Medal measures forty-six millimetres in diameter. The obverse bears the profiles of Machaon and Podaleirios, the Greek military surgeons, whose achievements in the Trojan War are described by Homer. These two sons of Asklepios were reared, says the Iliad, by the sage Cheiron, the wise centaur who is regarded as the father of pharmacy. Their father also imparted his skill to them, so that they in their turn became "divine professors of the healing art." Homer and the cyclic poets recounted how Machaon and Podaleirios healed the wounded Greek heroes, and their striking description inspired artists of the classical period to engrave the scenes upon gems, or carve them on

stone. Machaon was more strictly a surgeon, he wears a helmet with long appendages, as does the Wellcome Medal. Podaleirios, the younger brother, wears the theristrion, a form of headgear associated with physicians in ancient Greece. Both are depicted in some of the representations of Asklepios. Machaon, the elder brother, is given the chief place on the medal. Both, however, were true military medical officers, being regarded as valiant warriors as well as skilled surgeons. Together they cared for the wounded, and they fought side by side. No more appropriate figures could adorn a medal given for contributions to military medicine. The name of each, ΜΑΧΑΩΝ and ΠΟΔΑΛΕΙΡΙΟΣ, is found on the heads, respectively. The legend around the edge is: THE HENRY S. WELLCOME MEDAL. Below a plain exergual line the words: AWARDED are followed by space for the name of the recipient.

The reverse of the Wellcome Medal features the insignia of the Association of Military Surgeons of the United States; *viz.*, a cross on which is superimposed a shield enclosing a shield of the United States surrounded by the motto: OMNIA PROpter CARITATE. Around the border are the words: ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

The Wellcome Medal comes in an ornate leather case of special design. The top of the case and within is a booklet with the history of the medal and a detailed description of the design.

Winners of the Wellcome Gold Medal

1916—Major Mahlon Ashford, Medical Corps, U. S. Army, for his essay: "The Most Practicable Plan for the Organization, Training and Utilization of the Medical Officers of the Medical Reserve Corps of the Army and Navy, and of the Medical Officers Reserve Corps of the United States Army, in peace and war." (1917, xl, 123-155).*

1917—Not Awarded.

1918—Lieutenant-Colonel Edward Bright Vedder, Medical Corps, U. S. Army, for his essay: "The Epidemiology of Sputum-Borne Diseases, and its Relation to the Health of the National Forces" (1919, xliv, 123-153).

1919—Lieutenant-Colonel James Lung Bevans, Medical Corps, U. S. Army, for his essay: "The Function of Medical and Surgical Consulting Staffs Determined by the Experiences of the Late War" (1920, xlvi, 465-506).

1920—Lieutenant-Colonel Louis Casper Duncan, Medical Corps, U. S. Army, for his essay: "The Part of the Medical Department in Maintaining Military Morale" (1921, xlviii, 613-647).

1921—Major Mahlon Ashford, Medical Corps, U. S. Army, for his essay: "Measures for the Development of Organization and Extension of Usefulness of the Medical Reserve Corps Systems of the Government" (1922, l, 363-393).

1922—Major Mahlon Ashford, Medical Corps, U. S. Army, for his essay: "A Plan for the Correlation of The Three Federal Medical Services in Preparation for War, During the Continuance of Hostilities, and through the Subsequent Period of Reconstruction (1922, li, 473-507).

1923—Lieutenant-Colonel Edward Bright Vedder, Medical Corps, U. S. Army, for his essay: "Benefits Derived by Military Students from Animal Experimentation" (1923, liii, 411-441.)

1924—Captain William Scott Dow, Medical Corps, U. S. Army, for his essay: "The Possibility of Medical Research in the Military Service Because of its Complete Control over Personnel" (1925, lvi, 129-144).

1925—Lieutenant-Colonel Albert Cohen Carlton, Medical Reserve, U. S. Army, for his essay: "The Means and Policies which will

*The bibliographical references are to *The Military Surgeon*; viz., the year, volume and pages of the publication of the winning essay.

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Best Enable this Association to Increase its Membership and Accomplish its Patriotic Objects as Stated in its Consitution" (1925, lvii, 477-488).

1926—Major Milton Weston Hall, Medical Corps, U. S. Army, for his essay: "The Respiratory Group of Diseases as they Affect Soldiers and Sailors" (1927, lx, 1-30).

1927—Major Edward Godfrey Huber, Medical Corps, U. S. Army for his essay: "In Consideration of the Physical Disabilities found in Drafted Men and Volunteers of the World War, What Practical Hygienic Measures are Advisable for School Children in the United States?" (1927, lxi, 734-757). This was the first award of the Gold Wellcome Medal with the honorarium of \$500, instead of the previous \$300.

1928—Major Roy Cleveland Heflebower, Medical Corps, U. S. Army, for his essay: "Prisoners of War: What have been the Chief Causes of their Sufferings in the Past, and How Can these Best be Prevented in the Future?" (1928, lxiii, 625-642).

1929—Major John Pierrepont Fletcher, Medical Corps, U. S. Army, for his research report: "Research Development of Medical Field Equipment" (1929, lvx, 814-841).

1930—Not Awarded.

1931—Colonel George Alfred Skinner, Medical Corps, U. S. Army, for his essay: "The Influence of Epidemic Diseases upon Military Operations in the History of the Western Hemisphere" (1931, lxix, 579-594).

1932—Colonel Edward Bright Vedder, Medical Corps, U. S. Army, for his research report: "A study of the Antiscorbutic Vitamine" (1932, lxxi, 505-515).

1933—Major Edgar Erskine Hume, Medical Corps, U. S. Army, for his essay: "The Value of Studies in Health and Sanitation in War Planning" (1933, lxxiii, 285-305).

1934—Acting Assistant-Surgeon George Albert McBride, U. S. Public Health Service, for his essay: "The Civilian Doctor's Part in a National Emergency" (1935, lxxvi, 191-199).

1935—Major Leon Alexander Fox, Medical Corps, U. S. Army, for his research report: "Field Chlorination of Water" (1936, lxxviii, 329-350).

1936—Captain Harry George Armstrong, Medical Corps, U. S. Army, for his essay: "The Importance of Coördinating the Military and Naval Medical Services with the Civilian Medical Profession" (1937, lxxx, 171-181).

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1937—Major Isaac Jacob Frisch, Medical Corps, Illinois National Guard, for his essay: "The Contributions of the World War to the Advancement of Medicine" (1938, lxxxiii, 19-47).

1938—Major Frank Boles Wakeman, Medical Corps, U. S. Army, for his research report: "A Specific Somatic Polysaccharide as the Essential Immunizing Antigen of the Typhoid Bacillus" (1939, lxxxiv, 452-470).

1939—Colonel Albert Gallatin Love, Medical Corps, U. S. Army, for his essay: "The Importance of Adequate Records of the Sick and Wounded in the Military Service in Time of War, and the Best Methods for Obtaining Them" (1939, lxxxv, 461-480).

1940—Captain Lucius Warren Johnson, Medical Corps, U. S. Navy, for his essay: "The Medical and Sanitary Care of the Civilian Population Necessitated by Attacks from Hostile Aircraft" (1941, lxxxviii, 1-23).

1941—Lieutenant-Commander Albert Richard Behnke, Jr., Medical Corps, U. S. Navy, for his research report: "Investigations Concerned with Problems of High Altitude Flying and Deep Diving, Application of Certain findings pertaining to physical fitness to the General Military Service" (1942, xc, 9-29).

1942—The contest, closing on 31 August, 1942, is for the best essay on the following topic: "Measures of Preventative Medicine Recommended by the Federal Medical Services to Insure the Maximum Improvement of the Selectee of 1961 over him of 1941."

The Wellcome Gold Medal has been, including 1941, awarded twenty-four times.

Winners of the Wellcome Silver Medal

1916—Surgeon William Colby Rucker, U. S. Public Health Service, for his essay: "The Influence of the European War on the Transmission of Infectious Disease, with Special Reference to Disease Conditions in the United States" (1917, xl, 123-155).

1917—Not Awarded.

1918—Not Awarded.

1919—Dr. Karl Murdock Bowman for his essay: "The Relation of Defective Mental and Nervous States to Military Efficiency" (1920, xlvi, 651-669).

1920—Not Awarded.

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1921—Colonel James Robb Church, Medical Corps, U. S. Army, for his essay: "Plan for the Conservation of Health of Males within the Second Decade of Life in Relation to Military Defense" (1922, 1, 487-532).

1922—Not Awarded.

1923—Colonel Henry Halcolm Rutherford, Medical Corps, U. S. Army, for his essay: "The Training of the Medical Student for Service in Time of War" (1923, liii, 442-456).

1924—First Lieutenant Paul Reed Rockwood, Medical Reserve, U. S. Army, for his essay: "Lessons of Nutrition Derived from the Great War" (1925, lvi, 385-410).

1925—Captain Everard Blackshear, Medical Corps, U. S. Army, for his essay: "The Means and Policies which will Best Enable this Association to Increase its Membership and Accomplish its Patriotic Objects as Stated in its Constitution" (1925, lvii, 566-576).

1926—Not Awarded.

1927—The Wellcome Silver Medal abolished and the honorarium therefore attached, transferred to the Wellcome Gold Medal, thereby making the combined honorarium \$500.

Only six Wellcome Silver Medals have been awarded.

THE FOUNDER'S MEDAL

The institution of the Founder's Medal of the Association of Military Surgeons of the United States is thus described by the Association's Secretary, Colonel James Matthew Phalen, in an editorial in *The Military Surgeon* for September, 1941, the Fiftieth Anniversary Number, lxxxix, 596:

"The advent of the fiftieth year of the life of the society caused our President, Colonel Harold Dunbar Corbusier, to favor the creation of a medal for award by the Association for conspicuous work in the field of Military Medicine. After much consideration the Executive Council voted its approval

of a Founder's Medal which should memorialize General Senn, and which should be awarded by vote of the Council to any member, past or present, who has rendered conspicuous service to the cause of Military Medicine. A design was worked up in the office of the Secretary, and the execution of the medal entrusted to Bailey, Banks and Biddle of Philadelphia. Briefly, the medal, to be cast in bronze, will present the profile of General Senn on one side and the seal of the Association on the other. The Medal will be completed and available for award at the Louisville meeting in October [1941]. An engrossed scroll will be awarded with the medal."

There are two slight mistakes in this statement. The medal is struck and not cast. The design on the reverse is not the seal of the Association but its coat of arms. The legend on the obverse is: THE FOUNDER'S MEDAL, while in the exergue there is a space for the name of the recipient. The inscription on the reverse, in a circle about the arms, is: ASSOCIATION OF MILITARY SURGEONS OF UNITED STATES. The arms depicted on the reverse are those adopted by the Association in 1909. In the four quarters there are the caduceus, badge of the Medical Corps of the U. S. Army; the oak leaf with acorn superimposed, badge of the Medical Corps of U. S. Navy; the crossed caduceus and anchor, badge of U. S. Public Health Service; and a field of blue bearing the stars as in the canton of the United States flag; in the center of the shield, superimposed, is the badge of the Association. For a crest there

is an eagle displayed, the cross of Geneva superimposed on its breast. The medal measures 50 millimetres in diameter.

Recipient of the Founder's Medal

At the meeting of the Association of Military Surgeons of the United States at Louisville, Kentucky, 29 October, 1941, marking the fiftieth anniversary of the foundation of the Association, the first award of the Founder's Medal was made. It was presented to Colonel Edgar Erskine Hume, Medical Corps, United States Army, "in recognition of his Monumental History of the Association [1941], involving arduous research and careful thought."

Certificate for the Founder's Medal

A unique feature of the Founder's Medal is the presentation with it of a certificate or diploma setting forth the name of the recipient, the date of the award and the reason for the award. The certificate is printed in black and red on antique paper, using eighteenth century type. The printing is done by the Dietz Press, Richmond, Virginia. The text of the certificate is:

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THE
ASSOCIATION OF MILITARY SURGEONS
OF THE UNITED STATES

1891

¶Be it known, That in the Fiftieth year of this Association, founded on the seventeenth day of September A. D. 1891, there was created:

THE FOUNDER'S MEDAL

¶To commemorate the half-century of the work of this Association chartered by Act of Congress;

¶To honor its Founder, Surgeon-General Nicholas Senn of the Wisconsin and Illinois National Guard;

¶And to reward exceptionally meritorious acts or distinguished service in the field of Military Medicine.

¶The Executive Council of the said Association of Military Surgeons of the United States, at its meeting held on the day of

awarded the Founder's Medal to

in recognition of

¶This Medal is an evidence of the appreciation of the Military Surgeons of the United States of these Signal merits.

(Seal)

.....President

.....Secretary

PART III

OTHER MEDALS HONORING ARMY MEDICAL OFFICERS

THE GORGAS MEDAL

(The American Medical Association)

The President of the American Medical Association, Dr. John A. Witherspoon (1864–1929) at the annual meeting of 1913 that he had appointed a committee to consider the award of a special medal on behalf of the Association to Surgeon General Gorgas. At the annual meeting of 1914 Witherspoon asked the chairman of this committee for his report.

The Chairman, Dr. Charles Alfred L. Brannan (1856–1928) of Cincinnati, made the following report:

“Mr. President: It is my privilege and honor to present to you an illustrious member of the medical profession to be the recipient of a gold medal of appreciation now to be conferred by the American Medical Association. Citizen of the republic, graduate in arts and medicine, doctor of sciences, member of renowned institutions at home and over seas, surgeon designated and promoted by special act of Congress for eradicating yellow fever from the Isthmian Canal Zone, member of the Isthmian Canal Commission, sanitary officer of the Isthmian Canal Zone, national consultant on great sanitary problems, Fellow and former President of the American Medical Association, honorary and associate member of the American Medical Association, and a man of high character and high ability.”

numerous foreign scientific associations, now Surgeon-General of the United States Army, illustrious scientist, executive, writer and scholar, William Crawford Gorgas, sanitarian, whose genius made possible the construction of the Isthmian Canal."

President Witherspoon thereupon addressed General Gorgas in these words:

"General Gorgas: One of the acts of my administration of which I am very proud, was the appointment of this special committee for the purpose of showing to the world our appreciation of ability, our appreciation of greatness, our appreciation of that wonderful genius which has made it possible, sir, for you not only to demonstrate to the world that it was possible to build the Panama Canal, but also to go further and show, as you have done, that 500,000 lives which have been lost in our country by preventable diseases [which] can be and will be prevented finally with you at the head of the Army of our country. We hope you will always be at the head of the sanitary protection of our people.

"As retiring president of the American Medical Association, it gives me great pleasure to turn over and to present to you, General Gorgas, a gold medal in commemoration of your wonderful ability and your wonderful work that has connected nations and has taught the world that the American Medical Association contains a man who dared to do what was right for the salvation of mankind."

Amid what the minutes record as "loud applause," General Gorgas accepted the medal, saying:

"I thank you, Mr. President, and Fellow American Medical Association. I appreciate, of course, the great honor of this occasion, but I would like to have you think that this honor is to be shared by three or four hundred young Americans who labored in this sanitary work on the Canal Zone. I receive this medal in part as their chief and representative. Again, I thank you." (*Journal of the American Medical Association*, 4 July 1914, lxiii, No. 1, p. 114)

It was a happy thought of the American Medical Association to have the presentation made by the distinguished Dr. Reed, whose loyal support of General Gorgas at a time when he had not been given full authority, was most effective. President Taft had had Dr. Reed make a special report on the subject of Gorgas's work in Panama.

Design of the Gorgas Medal

The gold medal thus presented to General Gorgas was manufactured by Tiffany and Company in New York. It is an octagon, four sides of which are seven-eighths inch, alternating with four sides measuring one and one-eighth inches. The medal is two and one-half inches long and three-eighths inches wide. The obverse bears the profile of General Gorgas, facing right. He is in dress uniform and without hat. In the four short corners are the words:

SALUS POPULI SUPREMA LEX

The reverse consists of a cross of four equal arms, extending to the margins of the medal. In the angles there are clusters of olive leaves. The cross itself is charged with the cup of knowledge at the top and the serpent staff of Æsculapius at the bottom, between which is the following legend:

PRESENTED
BY THE
AMERICAN MEDICAL
ASSOCIATION
TO
BRIG. GEN. W. C. GORGAS
SANITARIAN
WHOSE GENIUS MADE POSSIBLE THE
CONSTRUCTION OF THE
ISTHMIAN
CANAL

The makers' name "Tiffany & Company," in small letters appears near the bottom of the cross, below the Æsculapian staff.

The medal, in gold, is not among the collection of General Gorgas's decorations, academic hoods and the like which are displayed at the National Museum, Washington. The Museum has never received this medal, though they have the presentation copy of the Gorgas Medal of the Association of Military Surgeons of the United States. The dies are still in the possession of Tiffany and Company and in April, 1942, a strike was made for the Army Medical Museum, by permission of the American Medical Association.

Major-General Gorgas

William Crawford Gorgas was born at Toulminville, Alabama, on 3 October, 1854. His father, Josiah Gorgas (1818–1883), a native of Pennsylvania, was an officer of Ordnance, U. S. Army, who, despite his Northern birth, cast his lot with the South in the War Between the States and became Chief of Ordnance. Thereafter he became President of the University of the South at Sewanee, Tennessee, where the future Surgeon General spent much of his boyhood. Unable to obtain an appointment to West Point, he decided on entering the military service as a medical officer. He obtained his medical degree at the Bellevue Hospital Medical College, New York, in 1879, and after a year's internship was commissioned Assistant Surgeon, U. S. Army, in 1880.

The usual life of a young Army officer followed. He was stationed on the plains and at posts in Texas, Florida, and elsewhere. Following the occupation of Havana by American troops in 1898 he was placed in charge of a yellow fever camp at Siboney. Later in the same year he was appointed Chief Sanitary Officer of Havana. In Cuba, Walter Reed and his associates had finally proved the mosquito transmission of yellow fever. Gorgas put this to practical use, and not only freed Havana of mosquitoes but of yellow fever as well. His success brought him an international reputation.

In 1900 Major Gorgas was sent to Panama as a sanitary expert in the planning and construction of the canal. The same French engineers who had

built the Suez Canal failed in Panama, not because of any defect in their engineering skill, but because their workmen died like flies from yellow fever and malaria. Gorgas was there to prevent a recurrence of this. His magnificent success is too well known to require detailed statement. That the canal was finally built was as much due to Gorgas's supervision of the sanitation as to the work of the Corps of Engineers, and is so recognized. From 1906 on Gorgas was, by President Theodore Roosevelt's appointment, a member of the Isthmian Canal Commission.

In 1913 while in South Africa to give public health advice to the Transvaal Chamber of Mines, at their request, he was appointed Surgeon-General of the Army, effective 1914. The office then carried the rank of Brigadier-General. Gorgas was elevated to rank of Major-General, a grade held by all of his successors in that office. He was Surgeon-General through the trying period of the first World War, retiring for age in 1918. The remainder of his life was spent in studying world problems in public health and sanitation. In 1920 he was in London en route to Africa for the study of yellow fever on the west coast, when he experienced a stroke of apoplexy and died in the Queen Alexandra Military Hospital at Millbank on 3 July, 1920. He was visited on his deathbed by King George V, who created him a Knight Commander of the Most Distinguished Order of Saint Michael and Saint George. He also held the Army's Distinguished Service Medal. He is

buried in the National Cemetery at Arlington, Virginia.

THE WALTER REED MEDAL

(Awarded by Congress)

The proof that the mosquito transmits yellow fever is the basis on which one of the most important chapters of tropical sanitation rests. Yellow Fever has been one of the great scourges of the tropics, affecting white races in particular. The French failed in their efforts to construct the Panama Canal, as stated above, and Panama came to be known as "the white man's grave." It was said that for every tie on the Panama Railway a human life had been sacrificed. Chinese coolies too had perished in great numbers in Panama.

The Scottish-Cuban physician, Carlos Finlay, had long thought that the disease was transmitted by a mosquito, but had never been able to prove it. Walter Reed and his colleagues did just that, and having done so, the authorities knew how to attack the disease. By destroying the mosquito *Aedes ægypti*, then known as *Culex fasciata*, the dreaded "yellow jack" was subdued.

Congress was long in giving official recognition to the men of the Walter Reed Commission, for more than thirty years elapsed before the special medal was authorized and struck. Walter Reed himself had died long before, but his copy was sent to his widow.

Major Walter Reed

Walter Reed, son of Lemuel Sutton Reed of North Carolina, was born at Belroi, Gloucester County, Virginia, 13 September, 1851. He graduated at the University of Virginia when but sixteen years of age and won his medical degree at the same institution before he was eighteen. In 1870 he received the M.D. *ad eundem* at Bellevue Hospital Medical College. He passed the prescribed examination and entered the Medical Department of the U. S. Army as an Assistant Surgeon, in June 1875. Thereafter, as with most young medical officers, he spent long service in the West. In 1890, at his request, he was permitted to serve in Baltimore where he devoted all of his spare time to work at the Johns Hopkins Hospital. There, under Professor William Henry Welch, he specialized in the new science of bacteriology. In 1893 he was promoted to the grade of Surgeon (Major) and ordered to the newly created Army Medical School as Professor of Bacteriology and Secretary of the Faculty. About the same time, Dr. James Carroll, then a Hospital Steward (a grade now known as Sergeant, Medical Department), was made his assistant.

In 1898 Reed was appointed chairman of a board to determine the cause of the outbreaks of typhoid fever in the camps in the United States. His associates were Dr. Victor Clarence Vaughan of the University of Michigan and Dr. Edward Oram Shakespeare of Philadelphia. They showed that the

disease was spread largely by contact and not by water alone, as had been thought.

Reed's practical interest in yellow fever began in 1897. When the disease appeared in Havana in 1900, Surgeon-General Sternberg made him the head of a board of officers to study the cause. The other members were Carroll, above mentioned, Lazear and Agramonte. Their carefully planned work resulted in proving that the disease is transmitted by the mosquito, as suggested by Finlay, who however, had never been able to prove it.

Reed returned to Washington in 1901 and resumed his work at the Army Medical School. In 1902 he was appointed Librarian of the Army Medical Library, the largest collection of medical books in the world. He said that at last he had been given the duties that he had most desired ever since entering the Army. He was Librarian but one week, for he perished on 22 November, 1902 from appendicitis, operation being too late to save him. Thus, in his fifty-first year, was lost one of America's greatest men of science.

He died before his country could suitably reward him. Medical science of our own and other lands credit him with one of the great pieces of epidemiological work of all time. The Army named its largest and most important hospital for him, the Walter Reed General Hospital of Washington.

*The Secretary of the Treasury Presents
the Walter Reed Medal*

Nearly thirty years after Reed's death, his widow received the following letter:*

TREASURY DEPARTMENT
Washington

September 25, 1931

Mrs. Emily Lawrence Reed,
Blue Ridge Summit, Pennsylvania

Dear Mrs. Reed:

The Act of Congress of February 28, 1929, authorized the Secretary of the Treasury to cause to be struck a gold medal in recognition of the high public service of Major Walter Reed and those associated with him in the discovery of the cause and means of transmission of yellow fever. The Act further directed that the Secretary of the Treasury present such medals to each of such persons as shall be living and posthumously to representatives of each such persons as shall have died.

In accordance with the authority granted, I have the honor to present this medal to you and transmit it herewith as a token of the grateful appreciation of your country for the services rendered by your distinguished husband.

Sincerely yours,
A. W. Mellon
Secretary of the Treasury

Design of the Walter Reed Medal

The Walter Reed Medal is a large gold piece, designed by Thomas H. Jones, measuring 63 millimetres in diameter. The obverse bears the allegorical figures of Hygeia and a soldier. In her right hand Hygeia carries the caduceus while her left rests on the shoulder of the soldier. The soldier has a

*I am indebted for the copy of this historic letter to Major Walter Reed's son, Major-General Walter Lawrence Reed, U. S. Army, retired, sometime Inspector General of the Army.

staff in his right hand, the left bearing a shield. In an arc surrounding the two figures is the legend: CONQUEST · OF · YELLOW · FEVER · The reverse bears the inscription:

AWARDED TO

.....

IN · RECOGNITION · OF · THE
HIGH · PUBLIC · SERVICE · OF
MAJOR · WALTER · REED · U.S.A.
AND · ASSOCIATES · WHO · GAVE
TO · MAN · CONTROL · OF
YELLOW · FEVER

About the border of the reverse are the words: THE · CONGRESS · OF · THE · UNITED · STATES and ACT · OF · FEBRUARY · 28 · 1929 · The name of the recipient is engraved on a tablet. The illustration is that of the medal awarded posthumously to Walter Reed himself.

The Roll of Honor

Participants in Yellow Fever Investigations in Cuba.

The *Official Army Register* is an annual list of officers, active and retired, of the United States Army. It contains no reference to deceased persons, with one notable exception. Since 1929, by law, the Roll of Honor of participants in Yellow Fever investigations in Cuba appears in this volume each year. This roll is introduced with the following:

“The Secretary of War, Hon. Elihu Root, in his annual report, 1902, said with reference to the conquest of yellow fever in Cuba, in 1900–1901: “The

brilliant character of this scientific achievement, its inestimable value to mankind, the saving of thousands of lives, and the deliverance of the Atlantic seacoast from constant apprehension, demand special recognition from the Government of the United States.'

"The Congress has, in concurrence with his opinion, by an act approved February 28, 1929, authorized and directed the Secretary of War to publish annually in the *Army Register* a Roll of Honor on which shall be carried the following names, and to define in appropriate language the part taken by each of these persons in the yellow fever investigation in Cuba. The same act provided that a gold medal be presented to each person named in the roll, or to the representatives of those who have died."

The citations of Major Walter Reed, the three officers and eighteen enlisted men of the Medical Department of the Army are given in the Roll of Honor:

Walter Reed, (born in Virginia, 13 September, 1851) Major Surgeon—"When sent to Cuba in June, 1900, at the head of the Yellow Fever Board of medical officers, Major Walter Reed was already a distinguished man. In the Spanish-American War he had been at the head of another famous medical board which studied the camp epidemics of typhoid fever in the Army during that war, and made a great advance in our knowledge of the spread of that formidable disease in armies. He was professor of pathology and bacteriology at the Army Medical School and also at the Columbian (now George Washington) University in Washington, and stood high in his profession. In the work of the Yellow Fever Board he shared their labors and dangers, but his was always the originating, directing, and controlling mind. He died in Washington, D. C., November 23, 1902, following an operation for appendicitis."

James Carroll, (born in England, 5 June, 1854) Contract Surgeon (later Major Surgeon)—“Following his appointment as an acting assistant surgeon in 1898, Major Carroll was assigned to duty as assistant to Major Walter Reed. Early in the study of the agency of the mosquito as the transmitter of yellow fever, Major Carroll volunteered to be bitten by an infected mosquito. On August 31, 1900, he became ill and suffered a very severe attack of that disease. His was the first experimental case. He returned to Cuba a year later to make special studies of the blood of yellow fever patients. He died in Washington, D. C., September 16, 1907, having been promoted to the grade of Major, Medical Corps, by special authority of Congress in recognition of his services as a member of the Yellow Fever Board.”

Aristides Agramonte, Contract Surgeon (later an officer of the Cuban Army Medical Corps)—“Dr. Agramonte was born in Cuba [3 June, 1868], the son of a Cuban officer who fell in battle against the Spaniards. He was raised and educated in New York City, where his mother had taken refuge. He was serving with the Army in Cuba, in charge of the Medical Laboratory in Habana, when he was appointed a member of the Yellow Fever Board. His special qualifications as a pathologist, and his energy and ability contributed greatly to the success of the board. Of special value were his contributions to the demonstrations by the board disproving the then generally accepted theory that the bacillus icteroides was the causative agent of yellow fever. He died August 18, 1931, in New Orleans, Louisiana, where he was professor of tropical medicine in the Louisiana State University.”

Jesse William Lazear (born in Maryland, 20 May, 1866), Contract Surgeon—“Following graduation from the University of Maryland in 1892, Dr. Lazear did post-graduate work at the Pasteur Institute in Paris, and at Johns Hopkins University, specializing in mosquitoes and their relation to malarial infections. When the Yellow Fever Board was organized he was already in Cuba on duty with troops, and was studying yellow fever. He had charge of the mosquito work of the board when he contracted yellow fever while visiting yellow fever patients in order to infect mosquitoes for experimental purposes. He died, September 25, 1900, of this disease, a martyr to science. By his special knowledge and brilliant scientific attainments, as well as by the invaluable notes of his observations made in the last weeks of his life which he left, he contributed in the highest degree to the successful outcome of the investigation” (A tablet to Lazear has been erected in the Johns Hopkins Medical

School and the chemistry building at Washington and Jefferson College, his *alma mater*, given his name).

John H. Andrus (born in Pennsylvania, 7 October, 1879), Private, Hospital Corps—"Although not immune, he voluntarily nursed cases of yellow fever during an epidemic at Guanajay Barracks. Later at Columbia Barracks, he was detailed for duty in Major Walter Reed's laboratory. He became interested in the work of the Board, volunteered for experiment and was infected with yellow fever by an injection of blood from an experimental case. He became ill January 28, 1901, being the twelfth case in the series of cases at Camp Lazear. He left the Army April 24, 1902 with character excellent." He died in the Philadelphia Naval Hospital, 1 May, 1942.

John R. Bullard (born in Massachusetts 5 July, 1872), "A graduate of Harvard University, at which institution he was a distinguished athlete, came to Cuba and was treated by Dr. James Carroll at Columbia Barracks for malarial fever. Becoming interested in the yellow fever work, he volunteered, and received on October 15, 1901, an injection of the filtered blood of a Spaniard, an experimental case. The blood serum injected was the same as that employed in the cases of Privates Covington and Hamann at the same time. Slight fever and discomfort were caused, but no illness. A week later he received a blood injection from the veins of Private Hamann, who had been infected by the injection of filtered blood, and became ill with yellow fever, October 23, 1901. Having thus become immune, he continued to reside in Cuba after his recovery."

Robert P. Cooke (born in Virginia, 12 October, 1874) "Entered the Medical Service of the Army, June 9, 1900, and was on duty at Pinar del Rio during the yellow fever epidemic in the garrison there. He volunteered for the experiments at Camp Lazear and with two privates, Folk and Jernegan, were the first to undergo the trying ordeal of sleeping 21 successive nights in the soiled bedding used by yellow fever patients. This was to determine whether the disease was transmitted by infected bedding, clothing and other objects. This experiment was of vast importance not only in making clear the method of transmission of the disease, but to the commerce of the world." Cooke had formerly been a Midshipman at the U. S. Naval Academy. He was a Doctor of Medicine of the University of Virginia. He served in the World War as a Captain, Medical Corps, U. S. Army.

Albert W. Covington (born in North Carolina, 1 July, 1877), Private, Battery N, Second Artillery—"Volunteered for experiment

in the third series of cases when it was well understood that yellow fever would be the result. On October 15, 1901, he was given a subcutaneous injection of 3 cubic centimetres of the diluted and filtered blood serum from an experimental case of yellow fever. He became ill October 19 with a typical attack of yellow fever, from which he made a good recovery, and was returned to duty with his battery. He remained in service twenty-five years thereafter, being retired on August 23, 1926, as Staff Sergeant, Quartermaster Corps. He died April 20, 1934, in Gorgas General Hospital, Ancon, Canal Zone."

William H. Dean (born in Ohio, 6 January, 1877), Sergeant, Troop B, Seventh Cavalry—"The case of Dean was the second case of experimental yellow fever, being that which convinced the board that the theory of its conveyance by mosquitoes was well grounded, and being mentioned in their preliminary report as the Case X. Y. He volunteered and was bitten August 31, 1900, by the same mosquito which had infected Major Carroll four days before. He was also bitten by two other mosquitoes which had bitten a fatal case of yellow fever 12 days before, and a fourth mosquito which had been fed on three severe cases of yellow fever. He left the military service August 17, 1902, with an excellent character, and died May 3, 1928."

Thomas M. England (born in Ohio, 14 October, 1876), Acting Hospital Steward—"Enlisted for the Spanish War and came to Cuba with the VII Army Corps. He volunteered for the experiments at Camp Lazear, and underwent the trying ordeal of sleeping 20 nights in the bed formerly occupied by a yellow fever patient, and in the garment worn by him. His head lay on a towel stained with the blood of a case of yellow fever. He remained in the Army, serving in all the noncommissioned grades of the Medical Department, and won his commission in that department during the World War." He was a Captain, Sanitary Corps, during the World War and in 1920 commissioned Captain, Medical Administrative Corps. He retired for age on 14 October, 1940.

Levi E. Folk (born in South Carolina, 7 February, 1870), Private Hospital Corps—"Volunteered for the experiments at Camp Lazear, and with two others, first underwent the long and trying ordeal of sleeping 21 consecutive nights in the soiled bedding and clothing of yellow fever patients. This experiment was of vast importance commercially as well as scientifically, as it upset the accepted belief as to how the disease was transmitted, and resulted in the abolition of expensive and useless disinfections. He later was

bitten by infected mosquitoes, and on January 23, 1901, suffered an attack of yellow fever of moderate severity, thus showing that he was nonimmune at the time of the former experiment. He was retired in 1923 after 25 years of honorable service. He died February 9, 1936, in Columbus, Ohio." He served during the World War as a First Lieutenant, Sanitary Corps.

Wallace W. Forbes (born in Illinois, 25 September, 1878). Private First Class, Hospital Corps—"Volunteered for experiment and received an injection of half a cubic centimetre of blood from a case of experimental yellow fever. Two days later, he became ill and suffered a severe attack of yellow fever. He was honorably discharged from the Army four years later." He reenlisted 1916 and served to 1926, becoming a Sergeant, 30th Infantry.

Paul Hamann (born in Germany, 14 February, 1876), Private, Battery N, Second Artillery—"Volunteered for experiment, being one of the third group of volunteers, and was infected by Major Carroll with filtered blood serum at the same time with Private Covington. He became sick on October 19, 1901, and suffered a moderately severe attack of yellow fever. He was discharged from service, July 19, 1902, with character excellent."

James L. Hanberry (born in South Carolina, 12 December, 1875), Private, Hospital Corps—"Volunteered for experiment, and was one of the group who slept 21 consecutive nights on bedding which had been used by yellow fever patients, and was soiled with their bloody discharges. He also wore at night the soiled garments of the sick. Some weeks after this disagreeable, and it was then thought dangerous, experience, he was bitten by the same two mosquitoes which had a few days before infected a companion, and on February 9, 1901, came down with a severe attack of this painful disease. He left the service in 1902."

James Hildebrand (born in Georgia, 2 April, 1862), Private First Class, Hospital Corps—"Served in the Spanish War and came to Cuba with the VII Army Corps. He volunteered for the experiments at Camp Lazear, and with Hospital Steward England underwent the trying ordeal of sleeping 20 nights, January 11 to 31, 1901, in the bed and garment used by a yellow fever patient, and with the pillow covered by a towel stained with yellow fever blood. Hildebrand then offered to be bitten by infected mosquitoes, but Major Reed refused to permit this as he was much older than the other volunteers, and the mortality in yellow fever is much increased with age. He was discharged August 17, 1914, with character excellent."

Warren G. Jernegan (born in Florida, 8 July, 1872), Private Hospital Corps—"Volunteered for the experiment at Camp Lazear, and with two others, first underwent the long and trying ordeal of sleeping 21 consecutive nights in the soiled bedding and clothing of yellow fever patients. This was to determine whether the disease could be transmitted by infected bedding, clothing, and other objects. This experiment was of vast importance and not only in making clear the method of transmission of the disease, but to the commerce of the world. He then, on December 28 and 29, 1900, submitted to the bites of infected mosquitoes, but escaped infection. On January 4, 1901, he received an infection of blood from a case of experimental yellow fever (Martinez) and suffered a sharp attack of that disease, being the first case infected in this manner. He left the military service at the expiration of his enlistment with character excellent, and went to Panama, where he was employed in the Canal Service for a number of years. He died February 5, 1919, in Charleston, South Carolina."

John R. Kissinger (born in Ohio, 25 July, 1877), Acting Hospital Steward—"John R. Kissinger and John J. Moran were the first to volunteer of those who underwent the conclusive experiments at Camp Lazear where they occupied the same tent. On November 20, 1900, he was bitten by three infected mosquitoes. On November 23 he was bitten by one of the same three and on December 5 he was again bitten by five mosquitoes, two of which had been infected by fatal cases. On December 9, he became ill and suffered a typical attack of yellow fever. His was the first case of experimental yellow fever in the series at Camp Lazear. Of him, Major Walter Reed said: 'In my opinion, this exhibition of moral courage has never been surpassed in the annals of the Army of the United States.' He was discharged from the service, November 14, 1901, with character excellent."

John J. Moran (born in Ireland, 15 March, 1876), Acting Hospital Steward—"Employed as a clerk in the department headquarters at Marianao, Cuba. He there did clerical work for Major Walter Reed and became interested in the work of the Yellow Fever Board. He and Kissinger were the first to volunteer for the conclusive series of experiments at Camp Lazear. He was bitten on November 26 and 29 by infected mosquitoes, but without result. On December 21, 1900, he twice visited the infected mosquito room, and again next day, and was repeatedly bitten. On Christmas Day he became ill, and suffered a well marked and severe attack of yellow fever. Moran refused to accept the bonus which was given

by the Governor of Cuba to each volunteer, stating that he was glad to be able to do this service to humanity. He was discharged from the service, July 2, 1900, with character excellent. He served for some years at Panama during the construction of the Canal, and was commissioned a Captain in the Quartermaster Corps of the United States Army (Emergency Forces) during the World War."

William Olsen (born in Wisconsin, 27 August, 1874), Private, Hospital Corps—"Enlisted for the Spanish War and came to Cuba where he volunteered for the experimental work of the Yellow Fever Board at Camp Lazear. He was one of a group of four who were given injections of blood from a case of experimental yellow fever at the camp (the Spaniard Martinez) in order to decide certain questions of scientific importance. He was taken ill with yellow fever January 11, 1901. He was discharged on expiration of his enlistment, November 15, 1901, with character excellent. He died September 10, 1932, in Los Angeles, California."

Charles G. Sonntag (born in South Carolina, 20 November, 1872), Private, Hospital Corps—"Volunteered for the experiments at Camp Lazear, and was bitten by two infected mosquitoes and came down with yellow fever February 10, 1901, being the last case in the series at Camp Lazear. He took his discharge December 12, 1901, with character very good. He died February 19, 1937, at Sandy Run, South Carolina."

Edward Weatherwalks (born in New Jersey, 16 July, 1874), Private, Hospital Corps—"Enlisted for the Spanish War and came to Cuba with the VII Army Corps. He volunteered for the experiments at Camp Lazear and underwent the trying ordeal of sleeping 21 nights, December 21, 1900 to January 10, 1901, inclusive, on bedding which had been used by yellow fever patients and was soiled with their bloody discharges. He wore at night the soiled garments of the sick. As this experiment, like the other exposures to infected clothing, had no result, Weatherwalks was bitten on January 25, 1901, by 12 infected mosquitoes, but for some reason not known, escaped infection. He was discharged December 21, 1901, with character good, and died October 21, 1916."

Clyde L. West (born in Indiana, 5 April, 1877), Private, Hospital Corps—"Enlisted at Toledo, Ohio, for the Spanish War, and came to Cuba, where, while serving at Columbia Barracks, he volunteered for the experiments at Camp Lazear. He was infected in the mosquito room by the bites of two mosquitoes which had bitten a case of yellow fever 51 days before. This caused a mild attack of yellow fever three days later on February 9, 1901. Six days later these

same mosquitoes caused the very severe case of Hanberry in which his life for several days hung in the balance. He was discharged July 10, 1902, with character very good."

THE WALTER REED MEDAL

(The American Society of Tropical Medicine)

The American Society of Tropical Medicine created the Walter Reed Medal in 1934, with the provision that the medal should be first awarded in 1936. The Society published the following statement about it in the *American Journal of Tropical Medicine*:

"The American Society of Tropical Medicine has established a bronze medal, to be called 'The Walter Reed Medal,' which will be awarded to individuals or institutions in recognition of meritorious achievement in tropical medicine. There are to be no limitations of age, race or nationality in the selection of the recipient, except that preference is to be given to persons under forty years of age. The medal is to be awarded for work done within the past ten years and the award may be either for general accomplishment or for specific accomplishment. Awards are to be made at intervals of two years unless otherwise recommended by the Committee of Award.

"The Committee of Award will consist of three ex-presidents of the Society, each to serve for a period of three years and one to be elected each year. The Council has appointed Doctor Richard Pearson Strong (Chairman); Colonel Joseph Franklin Siler, Medical Corps, U. S. Army; and Admiral Edward

Rhodes Stitt, Medical Corps, U. S. Navy, Retired, to act as the first Committee of Award. The Committee of Award will present its nomination to the Council of the Society for final approval. It is expected that the first award will be made at the meeting of the Society in Baltimore, November 18-20, 1936. Mrs. Walter Reed will also be presented with one of the medals at this meeting. April 29, 1936" (*American Journal of Tropical Medicine*, July, 1936, xvi, 497).

Design of the Walter Reed Medal

The Walter Reed Medal of the American Society of Tropical Medicine is of bronze measuring fifty millimetres in diameter. The obverse bears the profile of Major Walter Reed facing left. It is taken from the marble portrait bust, now at the Walter Reed General Hospital, by Hans Schuler, sculptor, of Baltimore. Above the profile of Major Reed are the words: THE WALTER REED MEDAL. Below is the date: MCMXXXIV. The name of the artist, *Tschudin*, is at the right of the bust. The reverse bears the legend:

AWARDED
BY THE
AMERICAN SOCIETY
OF TROPICAL MEDICINE
TO
.....
IN RECOGNITION OF
MERITORIOUS ACHIEVEMENT
IN TROPICAL MEDICINE

The whole is surrounded by a wreath of oak leaves.

The medal was designed and executed, after descriptions by the Society, by A. Bacqueville, 5 Galerie Montpensier (Palais Royal), Paris. The writer had something to do with the preparation of the medal as he suggested the firm of Bacqueville after visiting a number of medalists in Paris at the request of the Society. Later he inspected the casts at Bacqueville's shop in Paris and reported thereon to the Society. These casts are now in the possession of Dr. Henry Edmund Meleney of the Department of Preventive Medicine of New York University College of Medicine, representative of the American Society of Tropical Medicine.

Awards of the Walter Reed Medal

The Walter Reed Medal of the American Society of Tropical Medicine has been awarded four times. The first copy was presented to Mrs. Reed in memory of her husband, as directed by the Society at the time the medal was instituted. The other three copies have been presented for accomplishments in tropical medicine.

The following is the record of awards, with dates of each:

1. 19 November, 1936—Mrs. Walter Reed, in recognition of the discovery of the mode of transmission of Yellow Fever, by her husband.
2. 19 November, 1936—The Rockefeller Foundation for meritorious achievement in the study and control of Yellow Fever.
3. 21 November, 1939—Dr. William Bosworth Castle, for outstanding work on the tropical anæmias associated with sprue and with hookworm infection.

4. 12 November, 1940—Dr. Herbert Charles Clark for outstanding contributions on human and monkey malaria, human and equine trypanosomiasis and other diseases of Central America.

THE KOBER MEDAL

(Association of American Physicians)

In 1923, eight years before his death, Dr. George Martin Kober, sometime Acting Assistant Surgeon and later officer of the Medical Reserve Corps of the Regular Army, established the Kober Lectureship and the Kober Medals.

In a letter of 22 June, 1923, addressed by Dr. Kober, long Dean of the School of Medicine of Georgetown University, to the President, Reverend John B. Creeden, S. J., he said in part:

“In commemoration of the fiftieth anniversary of my graduation in medicine, I have created an endowment fund of sixteen thousand dollars to be held in trust by my Alma Mater, the Georgetown University of Washington, D. C.

“This fund is to be invested by said university, and the income therefrom to be used annually for the following purposes:

“The income of four thousand dollars to be used for a scholarship in the medical school, preference in the award to be given to residents of the District of Columbia, and of Modoc County, California.

“The income of one thousand dollars to be devoted to the endowment of a gold medal to be awarded annually to a member of the Association of American Physicians who has contributed to the progress and

achievement of the medical sciences or preventive medicine. This medal is to be awarded by the Association of American Physicians upon the recommendation of its Council . . . ”

The gift also provided for a fund of ten thousand dollars, the income from which would be devoted to awards for lectures delivered at Georgetown University.

The medal thus established by Dr. Kober is struck in the United States Mint.

Dr. George Kober, Founder of the Medals

The following sketch was written by Brigadier-General Jefferson Randolph Kean, Editor of *The Military Surgeon*. It appeared in that journal for June 1931:

“Dr. Kober was born at Alsfeld, Germany, March 28, 1850. His father, Johann J. Kober, was interested in the liberal movement of 1848, and would have liked to join the exodus of fine men who came to America to seek freedom and to escape the harsh measures of repression which followed that abortive effort. Johann Kober was, however, retained at home by the necessity of caring for his large family, which included ten children. He vowed, however, that none of his sons should serve in the army of any German potentate, and so in due time his third son George, age 16, renounced his allegiance to the Grand Duke of Hesse-Darmstadt and set out for the American Land of Promise. He entered the Army in 1867 at Carlisle Barracks, became a Hospital

Steward in 1870, and in 1871 was assigned to duty in a clerical position in the Surgeon-General's Office. He at once made use of his opportunities to study medicine, and was given the degree of M.D. by Georgetown Medical College in 1873. In 1874 he was appointed Acting Assistant Surgeon in the Army and sent to the west coast.

"Dr. Kober's army service lasted (with one intermission of 13 months) until 1888, during which time he took part in the Nez Percés campaign. Establishing himself in Washington he soon became connected with Georgetown University Hospital, and has done perhaps more than any other man to build up the Medical School of that University, of which he was for many years the Dean. When Dr. William H. Welch was, in 1927, awarded the Medal of the Kober Foundation for research in scientific medicine, he said in the course of his remarks in accepting it: 'I wish time and occasion were suitable for me to say something of Dr. Kober's own important contributions and services to medicine, surgery, hygiene and public health and charities, and indeed I cannot refrain from at least expressing here publicly what others as well as I have urged upon him in private conversation—the earnest wish that he should give the profession as well as the public the benefit of an autobiographical narrative of a long and unusually varied, interesting, and useful life.'

"Into these noble activities of Dr. Kober's we cannot go even to the extent of their enumeration. Happily, however, he took to heart Dr. Welch's

suggestion and when death overtook him in his eighty-second year he had nearly completed an autobiography of which the first volume appeared last year, and the second will doubtless soon be completed by the Kober Foundation of Georgetown University, which has been charged with its publication.

"Dr. Kober never married, and found his happiness in the study of his profession, and in the practical application in many ways of preventive medicine for the health and happiness of this city. He was one of the oldest members of our Association of Military Surgeons, having been elected a Life Member thirty-four years ago. He died April 24 [1931] at Washington, D. C."

Design of the Kober Medal

The Kober Medal, struck in the United States Mint, Philadelphia, is of gold, fifty-five millimetres in diameter. The obverse bears the profile of Dr. Kober facing right and in the margin the words:

KOBER MEDAL • ASSOCIATION OF
AMERICAN PHYSICIANS

The reverse bears the following legend, within a wreath of oak leaves:

AWARDED
FOR
RESEARCH
IN • SCIENTIFIC • MEDICINE
TO

.....

Winners of the Kober Medal

- 1925—Hideyo Noguchi, New York.
1926—Theobald Smith, Princeton, N. J.
1927—William Henry Welch, Baltimore.
1928—Victor Clarence Vaughan, Detroit.
1929—George Richards Minot, Boston.
1930—James Bryan Herrick, Chicago.
1931—Henry Sewall, Denver.
1932—Elliott Proctor Joslin, Boston.
1933—Alfred Newton Richards, Philadelphia.
1934—John Jacob Abel, Baltimore.
1935—Frank Burr Mallory, Boston.
1936—Edward Robinson Baldwin, Saranac Lake, N. Y.
1937—William Hallock Park, New York.
1938—Rufus Cole, New York.
1939—George Hoyt Whipple, Rochester, N. Y.
1940—Frederick Fuller Russell, Boston.
1941—William de Berniere MacNider, Chapel Hill, N. C.
1942—Donald Dexter Van Slyke, New York.

The Kober Medal has been awarded eighteen times.

THE KOBER MEDAL IN HYGIENE (Georgetown University)

By the terms of his gift in 1923, Dr. George Martin Kober, sometime Acting Assistant Surgeon, United States Army, established the Kober Medal of the Association of American Physicians (see p. 133), and the Kober Lectureship. He also provided that there be set aside a fund of a thousand dollars, the income from which should be devoted to the purchase of a gold medal to be awarded annually to that member of the Fourth Year Class of the School of Medicine of Georgetown University "who has attained the highest average in the course in Hygiene and whose record in his other studies is creditable."

Design of the Kober Medal in Hygiene

The medal is struck in the United States Mint, Philadelphia, and measures fifty millimetres in diameter. It is of gold. The obverse bears the profile of Dr. Kober, facing right, with the legend in margin: • KOBER AWARD IN HYGIENE • GEORGETOWN UNIVERSITY • SCHOOL OF MEDICINE •

The reverse shows a wreath of oak leaves surrounding the words:

DISCITE
QUAM PARVO
LICEAT
PRODUCERE
VITAM

Winners of the Kober Medal in Hygiene

- 1926—John William Mahoney.
- 1927—James Augustine Murphy.
- 1928—Bernard Joseph Gioffre.
- 1929—Not Awarded.
- 1930—Raymond Charles Kirchner.
- 1931—Norbert Stanley Greene.
- 1932—Robert Emmet Maher.
- 1933—Richard Joseph Kennedy.
- 1934—Hugh Hudson Hussey, Jr.
- 1935—Hyman Jaffe.
- 1936—Vito Congemi.
- 1937—Joseph Edward Koplowitz.
- 1938—Donat Paul Cyr.
- 1939—Joseph Michael Barker.
- 1940—Richard James Walsh.
- 1941—Robert William O'Connor.
- 1942—George Illarion Mishtowt.

The Kober Medal in Hygiene has been awarded sixteen times.

THE BAILEY K. ASHFORD MEDAL

(The American Society of Tropical Medicine)

The Bailey K. Ashford Award was established in 1940 by Eli Lilly and Company, manufacturers of pharmaceuticals, and accepted by the American Society of Tropical Medicine, which was given the right to select the winners. The terms of the offer and the basis for the award were set forth in *The American Journal of Tropical Medicine* for May 1940, xx, 453-454.

The award consists of an honorarium of one thousand dollars. Eli Lilly and Company has also caused a medal to be struck to accompany this award. The award was approved at the annual meeting of the American Society of Tropical Medicine, 1940. It was provided that the award would be made three times only, given in alternate years, beginning in 1941. An additional sum of \$150, or as much thereof as might be necessary, was made available to defray traveling expenses of the recipient of the award, to enable him to attend the annual meeting and receive it in person.

The following announcement was made at the time of the establishment of the award:

1. The Bailey K. Ashford Award will be given biennially in recognition of demonstrated research in the field of tropical medicine, taking into consideration independence of thought and originality.
2. The investigator must be a citizen of the United States of America and less than 35 years of age on January 1 of the year in which the award is made. The recipient must not be associated with a commercial laboratory and need not be a member of the American Society of Tropical Medicine.

3. Members of the American Society of Tropical Medicine are to submit to the Secretary of the Society (in triplicate) the name of a proposed recipient with full information concerning his personality, training, and a statement of the research work for which the award is to be made.

4. All nominations must be in the hands of the Secretary at least 60 days before the dates of the annual meeting, at which time the award is to be made.

5. The recipient will be given opportunity to present a short review of his work at the meeting at which the award is made.

6. The committee of Award shall consist of the President of the Society ex-officio and three members of the Society, each to serve for a period of six years and one to be elected every other year at the annual meeting by the Council; except that the original committee be elected at once by the Council on nomination of the President, one member to be elected for six years, one for four years and one for two years.

7. The name of the recipient and suitable recognition to the donors are to appear on the program of the scientific meetings of the Society.

It is understood that the American Society of Tropical Medicine contemplate changes in the method of selecting the recipient of this prize. This would involve changes in paragraphs 3 and 4 of the above conditions.

Colonel Ashford, Whom the Medal Honors

Bailey Kelly Ashford, son of Dr. Francis Asbury Ashford, a Confederate soldier, was born in Washington, D. C. on 18 September, 1873. He received his medical education at the Georgetown University, graduating in 1896. After a year's practical experience at the Children's Hospital of Washington, he entered the Medical Corps of the Regular Army as a First Lieutenant Assistant Surgeon in 1897. He graduated at the Army Medical School in 1898.

He had entered the military service just in time to participate in the Spanish-American War, in Puerto Rico, where he was present at the battle of Hormigueros. It was his first visit to the tropics and his autobiography reflects the delight that he experienced at the country and the opportunity to do research. Puerto Rico was to be his home for the rest of his life, excepting only when exigencies of the service called him elsewhere.

He was promoted through the grades to the rank of Colonel, 1917, and was sent to France as Division Surgeon of the First Division. He was present at the Aisne-Marne and Meuse-Argonne Offensives. Later in the war he was put in charge of the training of medical officers in the American Expeditionary Forces, establishing a special school at Langres.

His fame rests chiefly on his discovery of hookworm disease in Puerto Rico in the days of the Spanish-American War. The Puerto Rican Anemia Commission, created in 1904 by the Government, was a result of his recommendations. His campaign against this fatal malady was the first ever waged in the Western Hemisphere. He treated more than 300,000 patients. His other important contribution to tropical medicine was his work on the cause of sprue, a serious tropical digestive disease.

Ashford was frequently the representative of his country and of Puerto Rico at international congresses. In 1916 the Rockefeller Foundation sent him to Brazil to study and treat tropical diseases. He founded the Puerto Rican School of Tropical

Medicine and was able to have it recognized by and affiliated with Columbia University. Thereafter he held the chair of Tropical Medicine at Columbia.

He married Maria Asunción Lopez, 1899, member of a noble family of San Juan, Puerto Rico, who bore him a son and two daughters. He died in San Juan, Puerto Rico, 1 November, 1934. Though he was in poor health, he was able to be present at the unveiling of a bronze bust erected in his honor in his beloved School of Tropical Medicine. In the last year of his life he published the interesting autobiography, *A Soldier of Science*, in which he modestly told of his life's work. His brother, Colonel Mahlon Ashford, was also an officer of the Medical Corps of the Regular Army.

He received many honors. From the United States the Distinguished Service Medal for his success in training medical officers in France during the World War. Britain created him a Companion of the Most Distinguished Order of Saint Michael and Saint George, while the King of Egypt decorated him with the Grand Cordon of the Order of the Nile when he was in Cairo in 1928 as the representative of the United States at the International Congress of Tropical Medicine.

At that time the University of Egypt granted him the honorary doctorate. He was likewise a Doctor of Science, *honoris causa*, of Georgetown University. He was sometime President of the American Society of Tropical Medicine, and held membership in the Association of American Physicians, the Association

of Military Surgeons, and was a Fellow of the American College of Surgeons and of the American College of Physicians. His scientific publications, chiefly in tropical medicine and related sciences, are numerous.

Design of the Ashford Medal

The Bailey K. Ashford Medal is of bronze measuring 71 millimetres in diameter. The obverse depicts a man clad in a laboratory gown looking into a microscope near which are an assortment of test tubes, beakers, flasks, books and other laboratory accessories. Near the margin are the words: CHRISTIAN PETERSON COMPANY.

The reverse bears a seated nude male figure with right hand outstretched. In the margin there is the legend: THE BAILEY K. ASHFORD RESEARCH AWARD IN TROPICAL MEDICINE.

In the center of the medal there is this inscription:

ADMINISTERED BY
THE AMERICAN SOCIETY
OF TROPICAL MEDICINE
SPONSORED BY
ELI LILLY AND COMPANY.

Award of the Bailey K. Ashford Medal

The Bailey K. Ashford award, including the medal, has been made only once. It was presented at the annual meeting of the American Association of Tropical Medicine at St. Louis, 11 November, 1941 to Lloyd Eugene Rozeboom, Sc.D., of the School

of Hygiene and Public Health of the Johns Hopkins University. It was given "in recognition of his work in the study of races of anopheles mosquitoes in the neotropical region and for his incrimination of *Anopheles bellator* as a vector of malaria."

According to the terms of the gift by Eli Lilly and Company there are to be but two other awards of this valuable prize and medal, in 1943 and 1945, respectively.

OTHER MEDALS OF MEDICAL INTEREST

It has been found difficult to know where to draw the line as to medals to be included in this monograph. Some of the most important medals offered in this or other countries for medical research and other work have been won from time to time by officers of the United States Army Medical Corps. For instance, Brigadier-General Frederick Fuller Russell, the Army medical officer who is responsible for the use of typhoid fever prophylaxis in the army, has been awarded the Sedgwick Medal and the Marcellus Hartley Medal. Surgeon-General Sternberg won several medals, including one from the American Medical Association. Deputy Surgeon-General John Shaw Billings, the father of the Army Medical Library, largest collection of medical books in the world, received several such awards. The French Association for the Advancement of Science awarded its medal to a U. S. Army medical officer for direction of the campaign in Serbia against typhus fever. And there have been not a few others. As recently as 21

May, 1942, the Walter Burns Saunders Memorial Medal was presented to the Army Nurse Corps. This medal, awarded biennially to an American nurse for outstanding attainments, was won in 1932 by Annie Warburton Goodrich, founder of the Army School of Nursing.

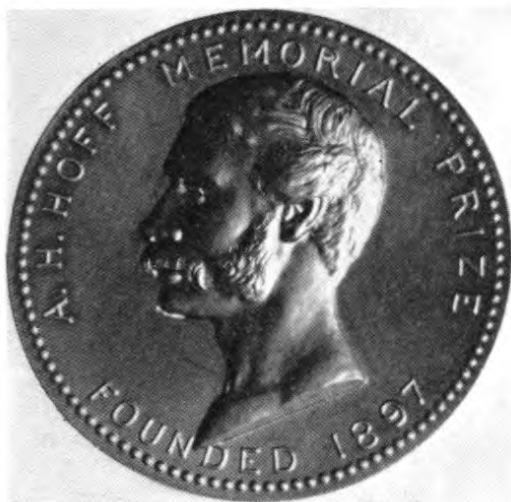
It is a matter of regret that limitations of space do not permit the inclusion of some of these medals, but the author has had to confine himself to medals honoring medical officers, rather than those won by individual medical officers. There is no way of assuring completeness were an attempt made to include this last group.

CONCLUSION

The award of medals is a time-honored mode of recognizing merit. The series above described gives a fairly comprehensive picture of the medico-military educational system at present in effect in the Medical Department of the United States Army. That these medals are comparatively unknown to collectors is remarkable considering the high value placed on them by the military service. Similarly the medals awarded in honor of Army medical officers are of great importance. In all we have here a series of twenty-four medals, struck in gold, silver and bronze, many being of the highest artistic worth. Perhaps these pages will serve to bring home to collectors the scientific accomplishments of Army medical officers, and to such officers the historical background of the medals already known to them.

The writer of these lines, in their preparation, has been struck by how few of the recipients of these medals are familiar with their history or with the lives of the men that they honor.

PLATES



HOFF MEDAL
(gold)

Awarded annually at the Army Medical School to the officer attaining highest class standing. This copy was the second one awarded.





STERBERG
MEDAL
First Type
(gold)

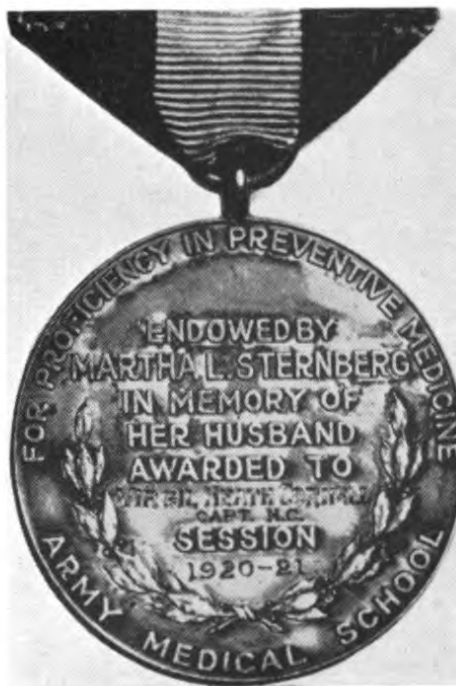
Awarded annually, 1913–1920, except in 1918 and 1919, at the Army Medical School for excellence in Bacteriology and Serum Therapy. The same medal, but known as the Slee Medal, was awarded in 1921–1923. This copy was the first one awarded.





STERNBERG
MEDAL
Second Type
(gold)

Awarded annually at the Army Medical School to the officer attaining highest standing in Preventive Medicine. This copy was the first one awarded.





SKINNER MEDAL

First Type
(bronze)

Awarded annually at the Army Medical School from 1917 to 1920, for the officer attaining highest standing in military hospital efficiency and administration. This copy was the first one awarded.





SKINNER
MEDAL
Second Type
(bronze)

Awarded annually at the Medical Field Service School, 1921–1931, for highest standing in the Basic Course. This copy was the first one awarded. Actual size 59 mm.

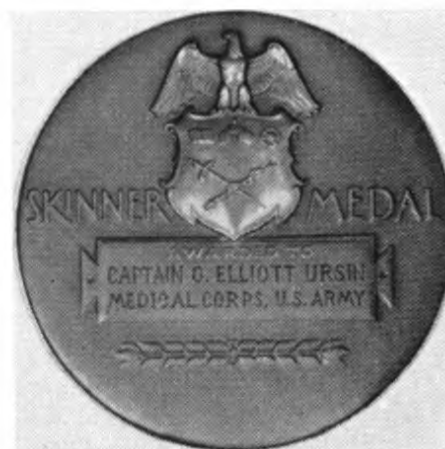




SKINNER MEDAL

Third Type
(gold and bronze)

Awarded at the Medical Field Service School since 1932 to the officer attaining highest class standing. From 1932 to 1936 the medal was of gold; since 1937 of bronze. This copy was the last one awarded.





DENTAL
CORPS
MEDAL
(gold)

Awarded annually from 1924 to 1939, at the Army Dental School, to the officer attaining highest class standing. This copy was the first one awarded.





DEVRIES MEDAL
(gold)

Awarded annually, 1923 to 1930, at the Medical Field Service School to the officer of National Guard and Reserve Officers Class with highest rating in Leadership and Proficiency in Drill.

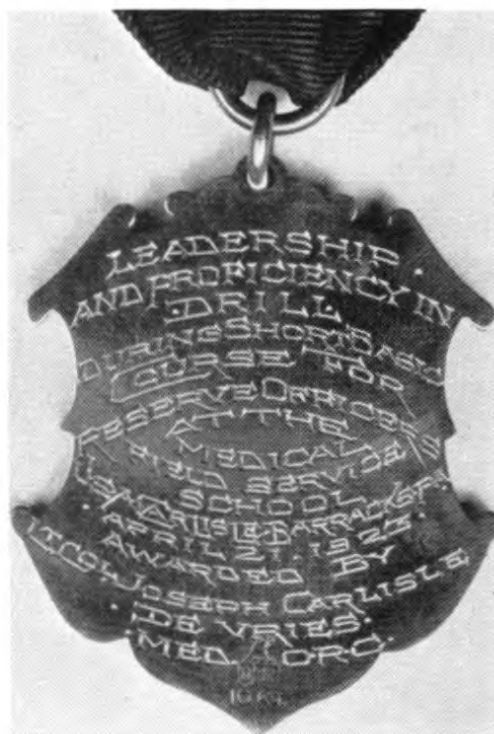


PLATE IX

UNITED STATES ARMY



HOSKINS
MEDAL
(gold)

Awarded annually, 1924 to 1939, at the Army Veterinary School to the officer attaining highest class standing. This copy was the last one awarded. Actual size 63 mm.



MEDICAL DEPARTMENT MEDALS

PLATE X



McCAMANT MEDAL
First Type
(gold)

Awarded in 1924 at the Medical
Field Service School to the officer
standing highest in Military Hygiene.





MCCAMANT MEDAL
Second Type
(gold)

Awarded annually from 1925 to 1930, at Medical Field Service School to officer standing highest in Military Hygiene.





REA MEDAL
(gold)

Awarded annually at the
Army School of Nursing for
highest class standing.



PLATE XIII

UNITED STATES ARMY



McKINNEY MEDAL
(gold)

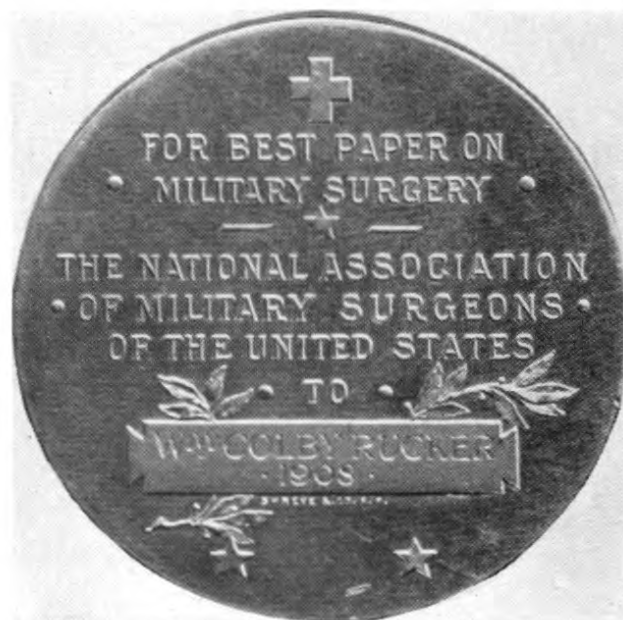
Awarded annually at the Medical Field Service School to the non-commissioned officer standing highest in the class.





ENNO
SANDER
MEDAL
(gold)

Awarded annually by the Association of Military Surgeons of the United States, 1900 to 1908, except in 1905, for the best essay on Military Medicine. This copy was the last one awarded.





GORGAS MEDAL
(gold)

Offered by the New York State Association of the Medical Reserve Corps, U. S. Army, for best essay showing original research. Never awarded. This copy was presented to General Gorgas.





WELLCOME
MEDAL
(gold)

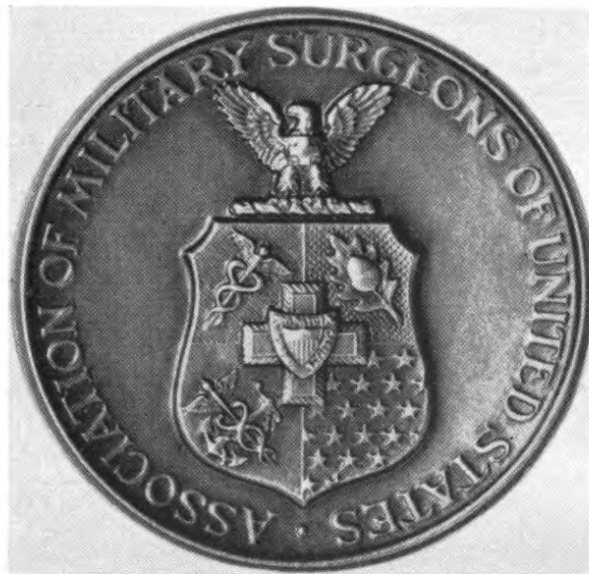
Established 1916 by Sir Henry Wellcome and awarded annually by the Association of Military Surgeons of the United States for best essay upon an approved topic. From 1916 to 1927, inclusive, there was also a silver medal from the same dies.





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WALTER
REED
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(gold)

Awarded by Act of Congress to Major Walter Reed and his associates for demonstrations of the transmission of yellow fever by the mosquito. This is the first copy struck. Actual size 63 mm.





WALTER
REED
MEDAL
(gold)

Awarded annually by
the American Society
of Tropical Medicine
in recognition of mer-
itorious achievements
in tropical medicine.





KOBER
MEDAL
(gold)

Awarded annually by the Association of American Physicians for research in scientific medicine. Actual size 50 mm.





KOBER
MEDAL
IN
HYGIENE
(gold)

Awarded by the Medical School of Georgetown University for excellence in the study of Hygiene. Actual size 50 mm.



PLATE XXIII

UNITED STATES ARMY



BAILEY K.
ASHFORD
MEDAL
(silver)

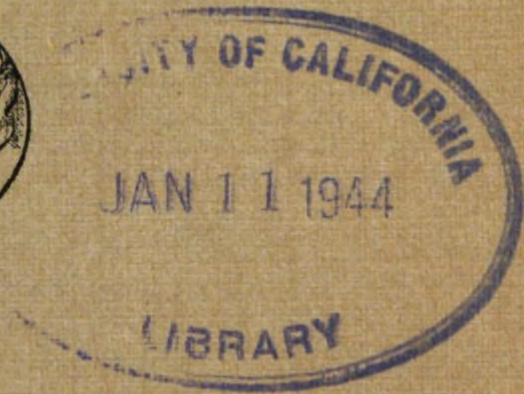
Awarded by Eli Lilly and Company to recipient selected by the American Society of Tropical Medicine. Actual size 71 mm. This copy is the only one thus far awarded.



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NUMISMATIC NOTES AND MONOGRAPHS

No. 99



SYCEE SILVER

BY

PHARES O. SIGLER

THE AMERICAN NUMISMATIC SOCIETY
BROADWAY AT 156TH STREET
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SYCEE SILVER

BY

PHARES O. SIGLER



THE AMERICAN NUMISMATIC SOCIETY
BROADWAY AT 156TH STREET
NEW YORK
1943

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SYCEE SILVER

BY PHARES O. SIGLER

PREFACE

The task which confronts the person who has the temerity to try to understand the history of any one of China's many interesting types of currency is stupendous. The silver, slipper-shaped pieces of money called *Sycee*, which would seem such a simple form of currency, is not an exception. Kipling once wrote:

"I keep six honest serving men
(They taught me all I knew)
Their names are What and Why and When
And How and Where and Who."

Our objective will be to try to find the answers to the Who, When, What, Where, Why and How challenge.

It is strange that so little has been written by economists and numismatists about the sycee in view of its importance in Chinese history. This scarcity of information makes it imperative to consider carefully all phases of the broader subject of Chinese currency in order to understand thoroughly the few facts which we are fortunate enough to have had preserved for us by contemporary writers. The plan adopted by the author is to cover very briefly the monetary history of China, the mining and importation of silver, counterfeiting, and taels (the measure

of weight employed in making and evaluating the sycee), as preliminary to an examination into the origin, manufacture, and use of the silver shoe money.

Little more can be claimed than an effort to present a complete picture by coordinating, compiling, and combining the efforts of the many industrious men whose names and works appear in the bibliography at the end of this monograph. The result may make it easier for those interested to find some of the answers to one of the many Chinese currency riddles, and it is hoped that the plates and the detailed descriptions of the pieces illustrated may provide a firmer foundation for generalizations than has hitherto been available.

CHINA'S MONETARY SYSTEM

For over two thousand years the *cash*, with occasional multiples, was the only coinage of China; gold and silver being current by weight only. This humble coin, worth but a small fraction of our cent, was customarily carried on strings and 1000 to 2000 of them at various times equalled one tael (*tāl*) of silver. Only when it is remembered that for centuries the average wage of the Chinese has been a few cents a day can we realize that the lowly cash served all of the monetary needs of the greater percentage of China's population.

For the first thousand years of its historical existence, as contrasted with its legendary period, China

was without a free supply of the precious metals, and the accepted use of silver dates back about a thousand years only. In the latter half of the 14th century, in the Ming dynasty, Yunnan was conquered and the government worked the newly acquired silver mines with prison labor. Prior to the revolution of 1911 Chinese prejudice against modern machinery and mining methods impeded the local development of mining. In addition the system of *Feng Shui* made the working of mines on a large scale impossible. This consisted of teaching the Chinese that the disturbance of ancestral graves would bring disaster to the person interrupting the peace of the dead, and since the burial places were frequently on hills and mountain sides which contained silver ore, little mining resulted until modern times. Another practical view, which might well have influenced the introducing of *Feng Shui*, was expressed by a writer in 1741 who states that the precious metals had not been disturbed "out of Policy, because the repose of the Publick would be disturbed by too much Riches, which would make the people proud and negligent of Agriculture."

The dearth of an adequate local supply of silver resulted in large importations from foreign countries, and it has been estimated that about one-half of the silver produced since 1493 has gone into India and China.¹ These two countries are said to absorb about 80% of the world's annual output of silver.²

¹Chao, Pao Chuan, *Silver*. Ithaca, N. Y., 1936, p. 2.

²Pennick, Alfred, *Silver and China*. Shanghai, 1930, p. 20, 21.

In 1035 A.D. silver was first recognized as legal tender in China for the payment of taxes, although as early as 500 A.D. it circulated by weight in Canton.³ China's first silver coins were made in 1183 A.D. and were of five kinds, weighing 1, 2, 3, 5 and 10 taels, and each tael passed for 2000 copper cash.⁴ This coinage, however, lasted only three years and in 1200, an edict was issued recalling the coins. Silver, nevertheless, was the chief currency of China from about 1200 to 1500 A.D. for all but small transactions.

For several centuries prior to the establishment of the Nationalist Government reliance was placed entirely upon foreign silver coins. The most popular of these were the Spanish and Mexican dollars which were first accepted by weight but later were taken at par. Many were "chop marked" by the holder who placed his name on it by means of a counterstamp, an oriental method of indorsing the piece as genuine, much as we indorse a check. The Japanese yen and the United States Trade dollars were also used extensively.

At the end of the nineteenth century the Chinese Empire attempted to coin and introduce its own silver pieces (called Dragon dollars) while shortly before the first World War the new Chinese Republic introduced its own silver dollar. The weakness of all Chinese money before the new era was that each province had worked its own mint independently,

³Wagel, Srinivas R. *Finance in China*, 1914. p. 267.

⁴Kann, E. *Currencies of China*, p. 236; Laughlin, *Money, credit and prices*, p. 287.

and gradual debasement followed, resulting in public confidence being undermined.

Paper currency is said to have been invented in China in 177 B.C. Although it has been used off and on since the ninth century, it has played but a small part in the monetary system of China as compared with the role played by the cash and sycee.

Counterfeiting is probably the most important single factor which gave the sycee its firm foothold in China, and, together with debasement, has played an important part in Chinese finance. Coins have been so extensively copied by forgers that new coins could not be designed fast enough to outdistance the imitators, and on at least one occasion the most skillful of the forgers was employed at a government mint, doubtless to keep him so occupied that he would not have time to copy the legitimate product. Although the Chinese were very clever at forgery, as all collectors of Chinese coins have learned to their sorrow, no serious attempt was made to perfect the coinage so as to render reproduction more difficult. During the popularity of foreign silver coins in China, these likewise were copied, sometimes by provincial authorities in government mints. The magnitude of this counterfeiting may be better realized when attention is directed to the fact that in the district of Shuntê, south of Canton, over 100 workmen were frequently employed in one large establishment making copies of these coins. Some of the forgeries were alloyed with lead, some were made of base metal and covered with silver, and frequently good

dollars were altered by removing some of the silver and substituting lead.

Shroffs, or money testers, were selected from the districts in which counterfeiting was most prevalent. There was even a book in print describing the process of manufacturing all varieties of false money and criteria for detecting them similar to the old counterfeit detectors once employed in the United States during the time of the unrestricted and unregulated issuance of state bank notes. These rules were well known to the shroffs and they had a reputation of being able to detect a false or debased coin at a glance.

Counterfeiting and debasement resulted in recourse to barter to avoid the ultimate cheating accompanying the acceptance of coins. Silk, grain, and bar silver became the safest medium of exchange, to which fact may be attributed the popularity of the sycee. We reserve for later a discussion of sycee and its place in China's financial history. With the exception of the cash, however, it has probably been more extensively used in China than any other form of money.

TAEELS

Some understanding of the various tael, which are so closely associated with sycee and which were not abolished until 1933, is necessary before attempting to learn more about the latter. At the outset it should be observed that the tael was not a coin, but a unit of weight and that some of them were both units of weight and standards of fineness of silver.

The tael has been referred to as a "Chinese ounce." It weighed roughly about one and one-third ounces, avoirdupois, but the taels used in different provinces and cities for various transactions differed over a range of several percent in weight. It is reported that over a hundred and fifty different taels were employed in China and that frequently those used in the same city varied as much as ten per cent.

In those cases where the tael implied a standard of fineness of silver, the degree of fineness varied just as did the weight, and when the weights were identical, the silver in one province sometimes contained a higher percentage of zinc, tin or other alloy than that of another district. Hence the tael was neither a constant weight nor a constant standard of fineness. Some writers distinguish between the "tael of weight", being the Chinese ounce, and the "tael of value," referring to a piece of silver of a certain weight and standard of fineness.

The tael was subdivided as follows:

- 1 tael equalled 10 mace
- 1 mace equalled 10 candareens
- 1 candareen equalled 10 cash

In other words, the tael equalled 1,000 cash. This evaluation likewise fluctuated and was not uniform throughout the country.

In view of the large number of differing taels, it will be sufficient to examine only the more important ones.

1. *Shanghai Tael*. This weighed about 545.25

grains (35.32 grammes) of silver, 980 fine, and its value consisted of three elements—the weight, the quality of silver, and a convention. The weight was based upon that of the *Tsaoping tael*, which was strictly a weight tael and not a monetary tael. The fineness was computed according to the *Kuping* basis of purity, namely, that silver was regarded as pure when it was actually 987 to 989 fine. The convention, based on an old custom, permitted 98 taels weight of silver to satisfy a debt of 100 taels. Thus 98 *Tsaoping taels* weight of silver about 933 fine equalled 100 Shanghai monetary taels. A better idea of the complexity of the Chinese currency situation in the old days may be gleaned from the fact that in Shanghai the *Canton tael* was used for dealings in foreign bar silver, the *Shanghai tael* (or “Shanghai convention currency”) for local banking and trade purposes, and the *Tsaoping tael* for Chinese remittances through Chinese banks to localities in China. Since Shanghai was the commercial center of China, the *Shanghai tael* was the best known and was one of the most important. It formed the basis for many others, differing from them only slightly in weight and fineness or in both. This tael also enjoyed the widest circulation, being used as far north as Manchuria and as far south as Kwangtung.

2. *Haikwan Tael*. This weighed approximately 583.3 grains (37.795 grammes) of silver, 1000 fine and was created when the Custom Service was organized in 1858. All custom duties were paid in it; hence it was the unit in which foreign trade and ex-

change was carried on. It was usually accepted as equivalent to 1.114 *Shanghai taels*.

3. *Kuping Tael*. This weighed about 573.9 grains (37.17 grammes) of silver, 1000 fine and was the unit in which all government taxes (other than custom duties) were payable. It was equivalent to 1.0960 *Shanghai taels*.

4. *Tsaoping Tael*. This unit weighed 565.5 grains (36.643 grammes), 944 fine, and as noted before, was a weight tael and not a monetary tael.

Some of the other taels were the *Tientsin, Hankow, Canton, Amoy, Chinkiang, Foochow, Ningpo, Chefoo, and Peking*. An idea of the range in values of the various taels may be had from the fact that on January 1, 1904, the *Haikwan tael* was worth 69.8 cents, *Amoy tael* 68.6 cents, *Canton tael* 68.4 cents, *Ningpo tael* 66 cents, *Chefoo tael* 65.6 cents, *Hankow tael* 64.2 cents, *Foochow tael* 63.5 cents, and *Shanghai tael* 62.7 cents.⁵

Naturally the trade of China was hampered by this confused and complicated system, even though the Chinese did not seem to regret the time spent on its intricacies. On April 5, 1933, the government ordered that all taels be abolished, and that subsequent transactions be in terms of silver dollars or *yuan*. From April 10, 1933, the foreign exchange banks began quoting exchange rates in foreign currencies per Chinese standard dollars instead of taels. All accounts which had been expressed in taels were con-

⁵"Money and Banking in China." (In *The Banker's Magazine*. New York, April, 1904, Vol. 58. p. 530.)

verted to dollars at the fixed rate of Shanghai taels 71.50 per \$100.00.

ORIGIN OF SYCEE

From the foregoing it will be understood that a transaction in taels implied the use of silver bullion. Most of the bullion current in China during the period with which we are concerned was in the form of ingots or "shoes," some of which were oval in shape while others were round. The term *sycee* was applied to both types. Sycee is said by some writers to date from the time of Kublai Khan, the Mongol emperor who ruled from 1260-1295 A.D., when the Mongols overran China and introduced the use of silver in ingots, each weighing about 50 ounces. However, a recent memorial on currency reform drafted in 1918,⁶ stated that sycee was known to exist during the Sung dynasty, 960-1280 A.D. Obviously, silver money in the shape of sycee has been used for hundreds of years in China, and probably changed but little during the centuries of its existence. The necessity of a system based on silver bullion naturally involved weighing and determining the fineness of silver to the satisfaction of both parties in a transaction. The manner in which this was accomplished will be considered later.

The word *sycee* is explained by some as having originated from the European pronunciation of the Chinese words *sai ssu*, meaning fine silver, while

⁶Kann, Eduard, *The Currencies of China*. Shanghai, 1926, pp. 240-241.

others claim that the word derives from the Chinese *se-sze* (or *hsi-sze*) literally signifying "fine floss silk". One author⁷ states that *sycee* meant the thin thread into which pure silver can be drawn out by the use of heat while another⁸ attributes the name to the fact that native silver found in fissures in the rock matrix from which the sycee was refined had the appearance of fine silk or hair.

SIZE, SHAPE AND COMPOSITION

To better visualize the sycee before describing the method of its manufacture, it will be well to remember that the majority of persons writing about it have concerned themselves only with the specimens of a particular province, and hence their views are limited to the shape, size, and method of manufacture of the particular type used locally. Since the government did not directly regulate or supervise the manufacture of sycee, design and size were left entirely to the whim of the makers, and each took its distinctive size and shape from the crucible in which it was melted.

Sycee are said to have been called "shoe" or "slipper" money because the ones cast in an oval mould resembled a Chinese woman's bound foot, although another theory is that their boat-like appearance caused them to be called *schuyt* or "boats"

⁷Laughlin, J. Laurence, *A new exposition of money, credit and prices*. 1931, Vol. 1, pp. 287-288.

⁸Birch, S. *Numismatic Chronicle*, Vol. VII, 1845, p. 175.

by Dutch traders, which in turn was given the English pronunciation "shoe". The shoe-shaped sycee were formed like a rectangle, but with rounded corners, smooth and flat on the upper, rather rough and rounded on the lower surface, and with the upper part having a larger circumference than the lower. Other sycee were round in shape and resembled a horse's hoof or kettle drum, and apparently this fact caused them to be described as having the shape of a horse shoe.

While weights of the various pieces varied from a fraction of a tael to 100 taels, the most popular and generally used pieces were those standard ingots of 50 taels or about 64 ounces or 4 pounds.⁹ For the most part they were shoe- or boat-shaped and measured about 5 x 3 x 3 inches over-all. Sycee of more than 50 taels are very seldom mentioned and while a few of 75 taels are occasionally spoken of, the more common ones (other than those of 50 taels) were the 10 tael pieces. Smaller sycee, the most popular of which were those of 1 tael, were not uncommon but a later consideration of the purposes for which the sycee was used will illustrate the limited need for the smaller units, especially during the period when foreign silver coins were available. These pieces were seldom sent to the larger commercial centers, being kept as souvenirs. When they were forwarded, however, they were frequently melted down and made into the larger sycee. They were popular

⁹Kann, Eduard. *Supra*, p. 240.

enough to inspire plated counterfeits, of which specimens are preserved.

The silver used in making sycee was, for the most part, imported but some locally mined silver, and many foreign (and when available, domestic) silver coins were cast into the shoe money. The means of refining the metal was imperfect. Accordingly, sycee differed in purity depending upon the source of its metal. During 1914, more than \$10,000,000 worth of coins made at provincial mints were converted into sycee in Shanghai alone. In addition, it has been estimated that from 1700 to 1830 silver worth over \$500,000,000 was imported into China, much of which was doubtless converted into sycee.¹⁰ Although some gold has been found in old sycee, practically all of the shoes were composed of silver and a baser alloy.

CHINESE BANKS AND BANKING

The manufacturing and use of sycee is so closely connected with banking that a brief glance at the organization and functions of these institutions may be helpful. Every large town had money shops; the inferior were operated by money changers and shroffs, and the more reliable were called private banks. These banks assisted in collecting taxes and duties and were licensed by the payment of a fee to the government. They accepted silver in payment of

¹⁰Wei, Wen Pin, *The Currency Problem in China*. (Studies in History, Economics and Public Law, Columbia University, 1914. Vol. 59, No. 3) p. 34.

the revenues and supervised its manufacture into sycee, receiving in payment for their trouble a surplus allowance for waste.

While the majority of the banks in the early part of the nineteenth century were either agents or partners of commercial houses, some of them were not so connected. They received deposits drawable at will on which they paid no interest; or deposits which could be withdrawn upon due notice only, and on which interest was paid. Some of the banks employed as many as twenty men whose business it was to attend the markets and observe everything taking place, and from their reports was determined the relative value of notes, bullion and dollars. A considerable part of the bankers' revenue was derived from supervising the manufacture of sycee, and this was one of the primary reasons for their strong opposition to the introduction of silver coins in China.

MANUFACTURE OF SYCEE

The casting of sycee demanded exceptional skill. Banks sufficiently sound to warrant the trust of the government had their sycee made by various small smelting shops, and well-established and privileged firms called *Loofangs*. These shops naturally charged for their services; the charge, however, was not designated as such, but implied in the amount of sycee to be returned for a fixed amount of bar silver, amounting to about two-thirds of 1%.

The following is an eye-witness account of the actual manufacture of sycee:

"I am indebted to my friend Mr. C. Tookey for the following account of a process which he saw practiced by the Chinese at Canton, while he was assayer at the Hong Kong Mint. A circular vessel of earthenware, about 12" in diameter at the top and 9" at the bottom, and 5" deep, was coated internally with clay so as to leave a central cavity 5" in diameter, which widened upwards like a funnel. The lower part of this cavity was filled with lime, slightly compressed, to within about 1" from the top. Sheets of papers were placed over the lime, and upon the paper 100 dollars (coined at the Hong Kong Mint) in two rows, together with an equal weight of lead. A cylinder of burnt clay, 11" in diameter, $3\frac{1}{2}$ " high, and $\frac{1}{2}$ " thick, was set upon the top of the clay lining of the earthenware vessel, and then a second similar cylinder on the top of the first. There was a notch at the bottom of the upper cylinder, through which passed a pipe connected with bellows. This pipe, which was made of burnt clay, was straight, and closed at the end within the cylinders, but had a hole in it on the under side near that end, so that the blast might be directed downwards upon the metal. Charcoal was the fuel used.

"Ignited charcoal was thrown into the furnace over the mixture of dollars and lead, and the blast let on; and as soon as the mixture was perfectly melted, the charcoal was raked down and blown from the surface of the molten metal; after which long

pieces of charcoal were placed over it on each side of the blast-pipe. Cupellation now followed, during which the blast was feebler than that used for effecting the fusion; and when the workman concluded from the appearance of the metal that this part of the process had been continued long enough, all the charcoal was removed and water was sprinkled over the metal in order to solidify it. The cake of metal, which was as yet only partially refined, was detached and hammered on the floor of the workshop, which consisted of blocks of granite, with the view of separating from it as much adherent slag as practicable. The further purification of the metal was effected in another furnace, of which the bed sloped downwards and backwards, and the working part was open. A dried clay crucible was placed in the furnace and gradually heated, and at the same time the hammered cake of impure silver was placed upon the ignited charcoal. After this, the heated cake was put into the crucible; and when it was melted, an assistant dropped small pieces of nitre, from time to time, into the crucible which was kept inclined towards the front of the furnace, with its mouth partially open, in order that he might be able to see into the interior and watch the action on the molten silver. The slag, resulting from this action, was removed by dipping in it a thick flat disc of iron, previously made hot, and scraping off what adhered to it, on the edge of a tray placed near for the purpose. As the silver became more and more free from alloy, portions of it were taken out, in a small red-hot crucible, and

poured into an iron ingot-mould, in order that the workman might judge, from the appearance of the upper face of the ingot when cooled, whether he had brought the silver to the desired fineness; and if any crystalline structure was observed in the centre of that face, the ingot was put back into the crucible, and more nitre was added. The same treatment was repeated until an ingot or 'shoe' was obtained which presented a smooth, non-crystalline surface throughout. When this occurred, the treatment with nitre was discontinued and the whole of the silver was cast into lumps, each of the weight of 11 ounces troy; and such silver was valued as pure Hai Kwan Sycee by the Chinese officials.

"Mr. Tookey assayed two out of seven 'shoes' which he saw thus cast, and found the standard of both to be the same, and only 986/1000 fine, i.e. in 1000 parts of the silver there still remained 14 parts of alloy * * *

"The weight of 100 Hong Kong dollars, by Mint balance, was 86.65 troy ounces, or 41,592 grains (the standard weight of the dollar being 416.0 grains), and by the Chinese balance and weights, 71 taels, 9 mace 2 candareens, or 41702.09 grains. The weight of the Hai Kwan Sycee, produced from 100 dollars, in the trial witnessed by Mr. Tookey, was 64 tael 3 mace 3 cand., or 37301.1 grains; and the weight of the silver computed to have been carried away by the lead was 0 tael 4 mace 0 cand., or 231.93 grains, so that, taking the Chinese weights, we have

$37301.1 + 231.93 = 37533.0$, and $\frac{37533 \times 1000}{41702} = 900/1000$, the standard fineness of the Hong Kong dollar. * * *

“It should be added that the trial reported about was made at Canton in order, if possible, to remove the prejudice on the part of the Chinese against the Hong Kong dollar; and fortunately with a successful result, as they agreed to accept that dollar at its real standard in payment for Customs duties. But Mr. Tookey concludes by expressing his opinion that this result was due more to a fortunate accident than to the use of a correct method of valuation.”¹¹

From the appearance of some of the larger sycee it is obvious that a sand mould, rather than a metal mould, was employed, as they do not have gas holes, the porous sand mould permitting the gas to escape.

Inasmuch as both the method of assaying and marking sycee differed widely in various localities, it may be well to study these briefly. After a shoe was cast it was delivered to a native called the *Kung koo* (or *Kung-ku*), selected by the banker for whom the sycee was made, who examined it and certified to its genuineness and when he placed his seal or mark on it his judgment was final and there was no appeal. For this service he received a small fee. After carefully weighing the piece, this assayer did his testing by the ancient method of using a touchstone and he paid special attention to the “look

¹¹Percy, John, *Metallurgy. Silver and Gold*, Part I. London 1880, pp. 298-302.

see"—the general appearance of the shoe in the way of shape, color and lustre—and sometimes he struck the piece and listened to the ring. The Chinese word *shê*, color, alluded to the lack of whiteness in the color of silver. Copper or zinc alloys darken the silver and their presence lowers the value of the metal. If the tested piece met with the assayer's approval, he either placed his stamp on it, marked it in Chinese ink, or wrote on a small square of red paper which was pasted on the sycee, giving details of the weight and fineness, and sometimes of the premium or "betterness" the shoe bore by virtue of any local customs.¹² The fineness was expressed by dividing the silver into a hundred parts called "touch." Thus, if an ingot was found to be 95 touch, it signified that it contained 5 parts alloy and 95 parts of pure silver.

While the method of assay was primitive, experience shows that the degree of accuracy obtained was astonishing. A few rare instances are reported that iron was found in sycee when melted down, but as a whole, the honesty and accuracy of the assayer have been found to be above reproach. Perhaps the fact that he and his heirs remained liable at all times for his certification, (and that, according to some authorities, he could be punished by death, if it were found at any time that he had acted fraudulently or dishonestly), contributed to this high standard of honesty.

¹²Spalding, William F., *Eastern exchange, currency and finance*. 1917, pp. 322-26.

As a general rule the credit of the assayer did not extend farther than his own province, but it is possible that the sycee issued by the better known banks passed through many hands without being again weighed or examined for fineness after the original certification. When they were re-examined, however, the original ink marks were first washed away, and new ones placed on the sycee. The rough and porous bottom of most of the sycee has been said by some to be due to repeated borings to sample the metal upon retesting the shoes, but a careful examination of many pieces leads to the conclusion that the perforations were caused either by air holes or by defects in the mould.

The stamping by the smelter generally consisted of placing on the sycee the name of the place where it was made and the date. In addition one or more of the following were sometimes stamped:

1. Name of banker for whom made.
2. Kind of tax to be paid with the sycee.
3. Furnace numbers from which smelted.
4. The names of the smelter.

Wavy marks, that remind one of thumb prints or a series of rounded irregular waves, appear on the upper surface of most of the shoes, while others have decided ripples extending part way up on both ends of the piece. Mosher¹³ states, "When the bankers melt and pour the silver, the mould is lightly tapped, and there appears on the surface of the ingot fine silk-like lines. The higher the grade of silver, the

¹³Mosher, Stuart, *The story of money.* p. 24.

more like fine silk are these circles." The thick ripples or waves in the larger pieces apparently result either from the use of a paddle in stirring the metal to remove impurities from the center in order to present a smooth, clean place for the stamping, or, more likely, from the agitation of the mould to obtain the same result. In the pieces smaller than the 50 tael size, the stirring would seem to be impractical and agitation appears to be the more likely explanation of the method of obtaining the ripples. Inasmuch as the metal cools from the outside inward, the center is the last to harden, and it would be soft enough to stamp after the ripples had set.

Some authors state that the high ends of the pieces result from the pressure of the stamp forcing the molten metal to rise at both ends of the mould, thus giving the sycee their boat-like appearance. This appears doubtful in view of the manner in which the pieces cooled and of the fact that they were necessarily weighed before being stamped. The same result might have been obtained by tilting the mould from one end to the other when the metal had reached the correct cooling point prior to stamping.

While our concern is only with Chinese sycee, it might be appropriate at this point to mention that silver shoes were also made and used in Siam and India. Siam borrowed many of her strange monetary ideas from China and it is related that Chinese silver was introduced there as early as the 8th century A.D., and that the use of Chinese sycee influenced the creation of the Siam bullet money. Ap-

parently some of the sycee used in India were the round type, as they have been described being shaped like hoofs.¹⁴

Now that we have some idea of how the sycee was made it might be interesting to ascertain whether they were coins in the ordinarily accepted sense. Webster defines the word *coin* as "a piece of metal (or rarely of some other material) certified by a mark or marks upon it to be a definite intrinsic or exchange value, and issued by government authority to be used as money." We have observed that the bankers who had the sycee made for them had to have a governmental license for this purpose; that a fraudulent assayer was punished according to law; and that the government accepted the pieces for taxes and custom duties. Certainly, then, it doesn't take much stretch of the imagination to consider sycee as coins. One who is ultraconservative, however, might compromise by calling them quasi-coins, and most writers prefer this designation.

USE OF SYCEE

Sycee were used in all parts of China, but naturally were used more extensively in large commercial centers like Shanghai, Hankow, Tientsin and Canton, than in rural communities where copper cash served the greater portion of the needs of the inhabitants. The shoe money was particularly popular in North

¹⁴Morrison, J. R. *A Chinese commercial guide*. Canton, 1834. p. 94.

China and in the province of Shansi, where the early Chinese banks were first started.

Prior to 1933 China was on a *de facto* silver standard, with quasi free coinage in the form of sycee. The actual basis of accounting was in taels and large debts called for payment in coin or sycee. For example, salaries, wholesale accounts, bank clearings, and taxes, as we shall see later, were frequently paid in sycee. During and after the revolution in 1911 the resulting political uncertainty and disrupted trade increased the popularity of sycee, especially when in competition with paper money. Likewise, the war in 1917 revived the desire of the Chinese to receive the substantial "shoes" of their ancestors in preference to all other forms of money.

It should be borne in mind that wealth in China was stored and preserved in the form of sycee much as we once accumulated and stored gold, and just as the American colonists put a large part of their wealth in silverware, which they readily converted into money when the need arose. Sycee was, therefore, very popular with the wealthy people of China, and they frequently stored it on their own premises. It has been related that as late as 1917 there was a considerable amount of silver hoarded in the province of Shansi, and doubtless some is still being hoarded, because war encourages the withdrawal of metallic money from circulation, especially when danger of invasion exists.

One of the primary purposes for which sycee were utilized, in addition to hoarding, was in the payment

of taxes, customs, salt duties, land taxes, and salaries of governmental and municipal employees. In some provinces where taxes and duties were required to be paid in pure silver, a certain percentage was added for the purpose of converting the silver into sycee of a definite high standard. For example, in Canton the conversion was into sycee of 97 to 99 touch and the added percentage included the cost of the conversion plus the cost of transporting the finished product to Peking.

In 1901 the provincial mints, except those at Canton and Wuchang, were ordered closed, and it was decreed that thereafter 70% of the tribute and taxes was to be payable in sycee and 30% in silver dollars issued by the two mints. The edict, however, was not obeyed. In 1930, the Nanking Government announced that custom duties in China would be payable in gold units equivalent to forty cents of the American dollar, and three years later the tael was abolished and with it the privilege of paying debts to the government in sycee.

Another important use of sycee was in making bank clearances and serving as bank reserves. The reserves were at times used as a basis for the issuance of paper currency. In later years the sycee for the most part remained in the bank vaults and transactions were made with tael bank notes or checks drawn in taels. The lack of clearing houses in China resulted in a large amount of the sycee being moved back and forth, generally in wheelbarrows or carried slung from bamboo poles, from one bank to

another in settlement of balances, since neither paper money nor checks were used for this purpose. The silver shoes were usually the 50 tael size and generally packed 50 to 60 in a box. Danger of robbery was not as great as might be imagined because of the weight of the shoes and the fact that they were so easily identified.

One vivid account of the use of sycee by the banks is as follows:

“At the close of business the balances due as between banks are settled by a payment of sycee, which is placed in locked boxes and transported through the Shanghai Settlement. The boxes are carried by two coolies, swung on a rope dependent from a bamboo, or several boxes are placed at once upon one of the primitive Chinese handbarrows, which form one of the peculiar sights of Shanghai. Sometimes the transport of silver from bank to bank after the close of a busy day continues throughout the night and well into the following morning. While even in the ordinary way this cumbersome and antiquated method of settling differences rarely finished before 7 or 8 P.M.”¹⁵

Merchants relied almost exclusively on sycee in paying their debts, and an example of some of their problems is preserved in the following account:

“Let us assume the simple case where our Shanghai merchant wishes to remit the contents of a box full of silver (if he wishes to make up an exact sum

¹⁵White, Benjamin, *Silver, its history and romance*. London 1917, pp. 269-70.

in Shanghai currency, certain complications are added). The silver in the box will be in the shape of "shoes" or "sycee" of about 50 taels each, and of varying "touch" (degree of fineness). If these shoes are marked in ink, with the result of a previous assay at the Assay Office for the Foreign Settlement, the preliminary stage becomes unnecessary; but if they have come in the course of trade from another port, or if their last previous assay was made by the Assay Office for the Chinese City, then all existing marks are washed off and the silver must be sent to the proper office. Here each shoe is weighed and the result written on one side; it is then "touched" and the difference (usually an addition) from a certain standard, as indicated by the colour on the touchstone, is written on the other side. This difference for touch is so much for the shoe irrespective of its exact weight, which is anything between 49 and 54 taels, but an allowance of 0.05 tael is added for each tael by which the weight of the shoe exceeds 50 taels: thus if the quality of the silver is 2.70, the addition for a shoe weighing 49.75 or one of 50.05 taels is 2.70, for one of 51.25 taels is 2.75 and one for 52.15 tael is 2.80 and so on."¹⁶

Another of the many uses of the sycee was in foreign trade, where it was employed because it was the only acceptable medium of exchange of which there was a free supply. However, the objection of for-

¹⁶Morse, Hosea B., *The trade and Administration of China*. 1921, pp. 179-180.

eigners to the cumbersome sycee, and the complicated and involved methods of making payments in taels, eventually led to the introduction of foreign silver coins, and later to the abolition of the tael and with it the sycee.

FUTURE OF SYCEE

The discontinuance of the tael in 1933 would ordinarily mean the end of the sycee. However, it must be remembered that the Chinese dislike change of any kind, and the present war may well cause a revival of the shoe money. Odd as it may seem, the foreigners, who were instrumental in introducing foreign coins because of their dissatisfaction with sycee, were the first to object to the discontinuance of shoe money. One writer relates that when the government abolished taels in April, 1933, and ordered all transactions to be in terms of silver dollars or *yuan*, which were minted at the Shanghai Mint, foreign banks and merchants at first were reluctant to make the change because they had learned that the sycee prepared by the smelting shops and assayed by the *Kung-koo* had proven for years to be a reliable standard, whereas many Chinese coins which they had received had been debased.

When one recalls the constant conflict between the government coinage and sycee, and the manner in which issue after issue of the former was converted into sycee, doubt arises that sycee has been so easily eliminated from its important position in the spot-

light of Chinese monetary affairs. As late as 1934 the Bank of China estimated the total silver stocks in China at over \$3,300,000,000.00, including silver coins and sycee. While no later reports are available, it would appear to be a safe prophecy that sycee will again appear from time to time, especially in remote sections of the country. It is believed that it will take more than a few laws to change the habits and faiths of centuries.

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DESCRIPTION OF PIECES ILLUSTRATED ON THE PLATES

Note: Some of the difficulties which prevent the strict classifying of the Sycee issues have been explained in the preceding pages; others will be obvious after examination of these plates. 1. Uniformity in placing the impressed characters could not be expected. 2. The translation or even transliteration of these characters is often involved, and frequently an exact equivalent is not to be found. 3. Ambiguity results when the ideographs are imperfectly registered. 4. Personal names which indicate the banks, or other commercial establishments, are significant to the Chinese within a geographic area surrounding the place of origin, but are rarely so to non-Chinese. 5. The problem of identifying place-names involves using Chinese atlases.

Except where there is indication that the pieces illustrated are in the author's collection, they are in the Museum of the American Numismatic Society.

No. 1. FIFTY TAEELS, DATED 1898.

At the top (three characters), Wan Nien (County or district)—in Kiangsi? At the lower right, (eight characters)—Winter month (12th moon), twenty-fourth year of the reign of Kuang Hsü (i.e., 1898). At the lower left, (six characters)—fifty tael, silversmith Yu Shen. The upper countermark in the center is translated 'Public' (i.e., for general use). The lower one is the numeral three, used as a mark of identification.

The weight is $58\frac{3}{4}$ oz. (1827.33 gm.); a portion of the upper rim has been cut away. This piece was reproduced in the *New York Sun* of July 24, 1942 by the United China Relief, Inc., from whom it was acquired by the American Numismatic Society. It is said to have been obtained in China at the time of the Boxer uprising.

No. 2. FIFTY TAEELS, 1895 A.D.

Upper cartouche at left—Ping Yao Hsuan—a county or district in Shansi Province. Lower cartouche at left—Chao Sze Hsiao—name of silversmith. Upper circu-

lar chop marks—Ho, an initial or mark of identification. Lower chop mark, Hsiang Ying—silver for the rations. Cartouche at r.—Seventh moon of the 21st year of the Emperor Kuang Hsü. (1895.)

The weight is $59\frac{3}{4}$ oz. (1858.43 gm.). The piece has been cut away at the top.

No. 3. FIFTY TAEELS.

In the curved cartouche at the top, the name of the local banker, Fong Chi. The upright cartouche at the left reads Ku Chiang Fu—the name of the silversmith. The large circular 'chop' is the numeral 2, the smaller one the numeral 6. The partly obliterated inscription in India ink is the assayer's approval signature of the local public assessor, (Kung Ku Chia).

Weight: 59 oz. (1835.10 gm.).

No. 4. TEN TAEELS.

Left cartouche—name of the bank, Yu Hsing Kon—weakly impressed. Right cartouche—supervised ingot of Shantung salt revenue.

Weight: 13 oz., 15 dwt., 14 gr(ains) (428.58 gm.).

No. 5. TEN TAEELS.

Cartouche No. 1 (at left)—Pao Feng (silversmith).

Cartouche No. 2—Name of the bank.

Cartouche No. 3—One hundred per cent pure.

There are three chop marks.

Weight: 11 oz., 17 dwt., 16 gr. (369.61 gm.).

No. 6. TEN TAEELS.

Cartouche at left—Shang Yao (silversmith's name?). Two other cartouches with identical inscriptions give the name of a private mint, Ya Chian Yin Lu.

Weight: 11 oz., 18 dwt., 7 gr. (370.58 gm.).

No. 7. TEN TAEELS.

Two cartouches with identical impressions give the name of the bank.

Weight: 12 oz., 10 dwt., 21 gr. (390.15 gm.).

No. 8. FIFTY TAEELS.

Incised inscription reading—Money received from exempting conscripted labor exchanged into silver by the Huei An Ching in Chin Tang Hsuen (near Cheng Tu).

Weight: $66\frac{1}{4}$ oz. (2060.60 gm.). Reduced in size on plate.

No. 9. SO-CALLED 'SADDLE SYCEE'. FIVE TAEELS.

The three oblong impressions are from the same die—the one at the right is inverted. Their inscription gives the name of the bank—Wan Ti Tu Chi (right column); the left column reads 'Pure silver for exchange purposes.' The inscriptions on the ridges between the other impressions read 'Publicly evaluated and inspected by Messrs. Tong, Yu and Chou.' This type of Sycee, used extensively in North Siam, is commonly called "saddle-money". (Cf. Le May, *The Coinage of Siam*, p. 8, Pl. II, 7.)

Weight: 5 oz., 4 dwt., 19 gr. (162.97 gm.).

No. 10. 'SADDLE SYCEE'. FIVE TAEELS.

The name of the bank is given in the right column of the three-fold inscription—Yin Pao Lui Chi; the remainder reads 'Pure silver used in tax collection as the basis of assessment.' The middle and right impressions are inverted.

Weight: 5 oz., 10 dwt., 1 gr. (171.13 gm.).

No. 11. 'SADDLE SYCEE'. FIVE TAEELS.

The name of the bank is Fu Shan Yuan Chi; the remainder of the longer inscription reads—'Pure silver for exchange purposes.' The right impression is inverted. The inscription on the ridges—'Publicly evaluated and inspected by Messrs. Chou and Chen.' The chop-mark is the numeral nine—probably used as a mark of identification.

Weight: 5 oz., 2 dwt., 4 gr. (158.89 gm.).

No. 12. ONE TAEEL.

Similar in shape to No. 15 and bearing the characters signifying 'Double happiness.'

Weight: 1 oz., 2 dwt., 4.5 gr. (34.50 gm.).

No. 13. FOUR (?) TAEELS.

Single cartouche, weakly impressed. This has been translated, 'Year Ping Wu; Fu Ping (a county in Shansi Province); with the added name of a district not identified.'

Weight: 4 oz., 10 dwt., 4 gr. (140.22 gm.).

No. 14. TEN TAEELS.

Bar with oblong face. The right cartouche reads 'Eleventh year of the Emperor Kuang Hsü' (i.e., 1885). The cartouche at the left continues with "Fourth Moon" and "Sze Lung," probably the name of the silversmith. The cartouche at the top reads 'Loh K'wei,' the name of a county (or bank) which has not been identified.

Weight: 12 oz., 7 dwt., 6 gr. (384.52 gm.).

No. 15. FIVE (?) TAEELS.

Three cartouches—one in Manchurian, give the reading 'Good Luck' and the name of the store.

Weight: 6 oz., 1 dwt., 8 gr. (188.69 gm.). Author's collection.

No. 16. FOUR (?) TAEELS.

Single cartouche—Kangsu Province—Tung Teh Kwei (silversmith).

Weight: 4 oz., 15 dwt., (147.74 gm.). Author's collection.

No. 17. TEN TAEELS, 1898.

Cartouche at left—name of the bank of store. Uppermost cartouche—Twenty-fourth year of the Emperor Kuang Hsü (i.e., 1898). Right Cartouche—Chien Wei (a district in Yunnan).

Weight: 11 oz., 9 dwt., 23 gr. (357.62 gm.). Author's collection. Ex Schulman Sale, May 5, 1908, Pl. III, 412.

No. 18. ONE TAEEL.

Inscription signifies 'Long Life.'

Weight: 1 oz., 4 dwt., 11 gr. (38.04 gm.).

No. 19. QUARTER TAEEL (?).

No. inscription.

Weight: 5 dwt., 21½ gr. (9.17 gm.).

No. 20. ONE TAE.

Inscription signifies 'Blessing.'

Weight: 1 oz., 3 dwt., 11.5 gr. (36.51 gm.).

No. 21. ONE TAE.

Side view.

Weight: 1 oz., 2 dwt., 12 gr. (34.99 gm.).

No. 22. TWO TAELS.

Uppermost cartouche—'Russo-Chinese Bank.' Cartouche at left—'Two Ku-Ping taels.' Cartouche at right—'One hundred per cent pure.'

Weight: 2 oz., 8 dwt., 2 gr. (74.78 gm.). Author's collection.

No. 23. ONE TAE.

Inscription signifies 'Double Happiness.'

Weight: 1 oz., 3 dwt., 19 gr. (37.00 gm.). Author's collection.

No. 24. TWO TAELS.

With the same inscriptions as No. 22—the name of the bank at the bottom here.

Weight: 2 oz., 7 dwt., 15.5 gr. (74.10 gm.). Author's collection.

PLATES

SYCEE SILVER



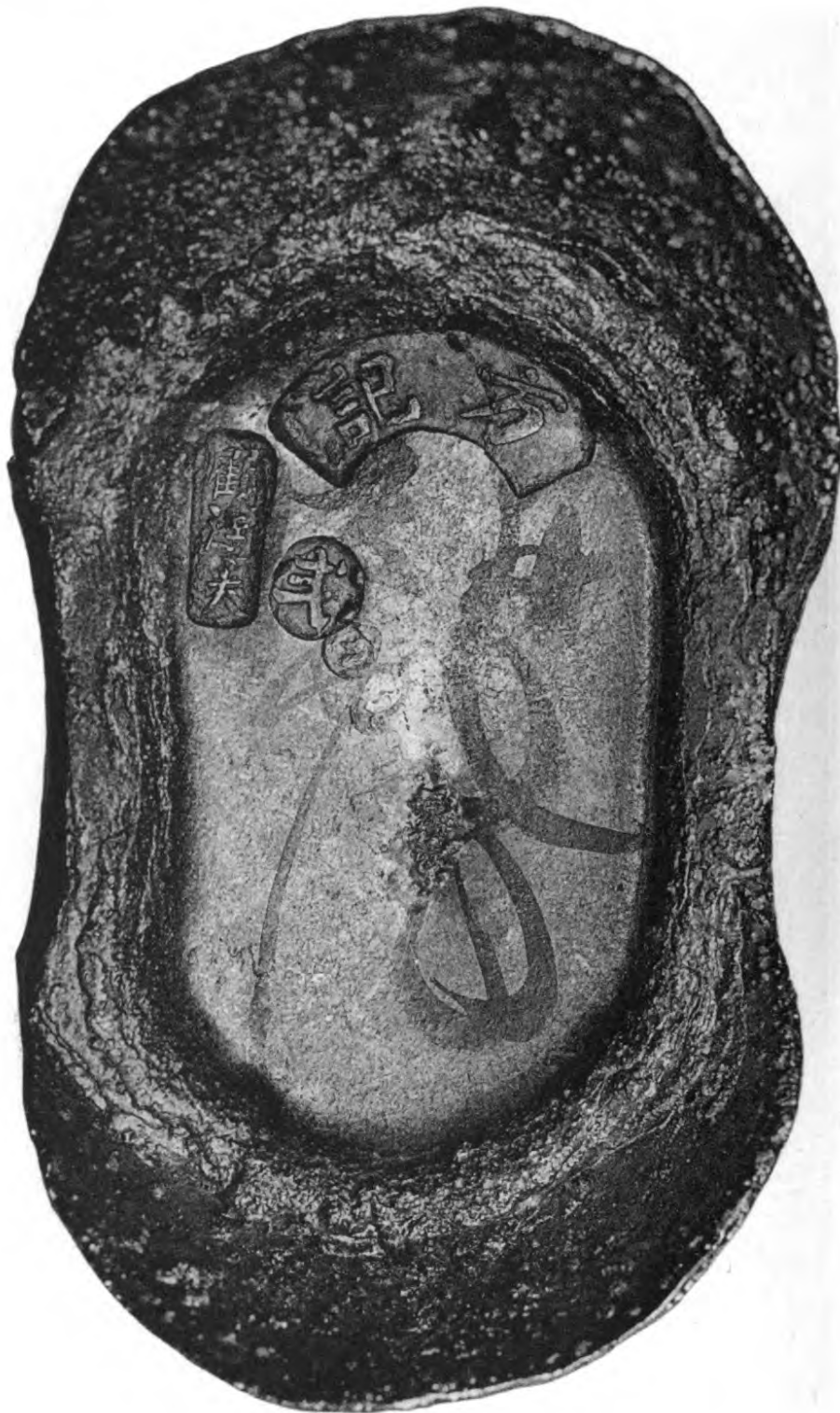
1

PLATE I



2

SYCEE SILVER



3a

PLATE II



3b

SYCEE SILVER



4



5

PLATE III



6



7

SYCEE SILVER



8 (Reduced)

PLATE IV



9



10



11

SYCEE SILVER



12



13



14

PLATE V



15



16



17

SYCEE SILVER

PLATE VI



18



19



20



21



22



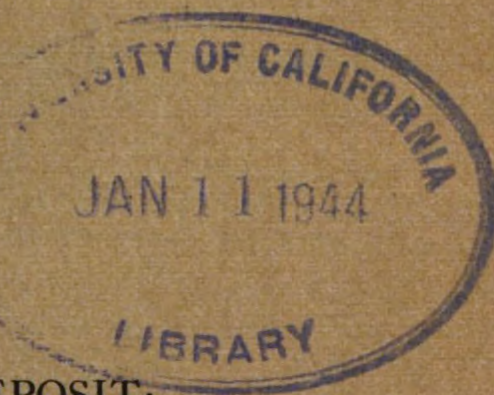
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NUMISMATIC NOTES
AND MONOGRAPHS

No. 100



THE CASTINE DEPOSIT:
AN AMERICAN HOARD

BY
SYDNEY P. NOE

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THE CASTINE DEPOSIT: AN AMERICAN HOARD

BY SYDNEY P. NOE

When the exhibition of the early coinages which circulated in America was planned by The American Numismatic Society for the spring of 1942, a photographic reproduction of seventeenth century coins came to light in searching for material. This was in a passe-partout frame bearing a caption stating that the coins depicted were selected from the deposit found at Castine, Maine, in 1840; on the back there was a note that the reproduction had been presented to the Society by one of its Benefactors, Mr. Daniel Parish, Jr., in 1883.

Correspondence ultimately established that this find of coins had been published by the Maine Historical Society in 1859 and that the coins in our illustration had since become the property of that Society and were to be seen in their quarters in Portland. A request that they be loaned for our exhibition, made to the President, Mr. Walter G. Davis, was courteously granted and the data regarding them in the Society's possession was placed at our disposal by Miss Mae Gilman, the Librarian of the Maine Historical Society. When the coins were received they were found to have such pertinence for our purposes that permission for their further study and for their re-publication was sought and obtained. This monograph is the result.

2 THE CASTINE DEPOSIT:

The article published in the *Collections of the Maine Historical Society*† in 1859 was from the pen of Mr. Joseph Williamson, and since we shall be under the necessity of referring to it frequently, a further word is desirable. Although without illustrations, in the main Mr. Williamson's account is excellent. For the facts regarding the finding of the coins, we quote verbatim:

"It was not on the peninsula that these coins were found, nor within the limits of the town of Castine, but on the banks or shore of the Bagaduce river, about six miles from the site of Castin's fort, in the town of Penobscot. This river, at its mouth, forms the harbor of Castine, and is navigable for small vessels for several miles above the village. At about six miles above, is a point called 'Johnson's Narrows', or 'Second Narrows', where the water is of great depth, and at certain periods of the tide forms a rapid current. A path leads across the point, and from the adaptation of the shore as a landing place, it is probable that the usual passage from Biguatus to Mt. Desert, was up this river as far as the narrows. Near the narrows the coins were discovered.

"The first indication of the hidden coins was perceived at the close of one of the last days in November, 1840, by Captain Stephen Grindle, on the farm he owned and occupied at the Second Narrows, before described. While engaged with his son, Samuel Grindle, in hauling wood down the bank to

†Vol. VI, pp. 107-126.

the shore, the latter picked up a piece of money near a rock which was partially buried in the ground. The rock was on a side hill, and when uncovered, presented an irregular surface of about four square feet. Its situation was some twenty-five yards from the shore, and in the direct line of a beaten track through the bushes, which has been used as a path across the point for a time beyond the remembrance of the oldest inhabitants. At the termination of this path on the shore, is an indentation or landing place, well adapted for canoes, and the natural features and facilities of the spot are confirmatory of a tradition that one of the Indian routes from the peninsula to Mount Desert and Frenchman's Bay was up the Bagaduce river, and from thence across to Bluehill Bay. The land was very rocky, and covered with a second growth of trees; the original growth having been cut about seventy-five years. At the time the coins were found, Capt. Grindle, together with his father-in-law, Mr. Johnson, had resided on the farm for over sixty years. Portions of the top of the rock were embedded in the soil to the depth of a foot, and a clump of alders grew around. The appearance of the place is not now the same as when the discovery was made. Repeated digging has laid the rock bare to the depth of several feet, and the side hill has washed away.

“Upon finding the first coin, which proved to be a French crown, Capt. Grindle and his son commenced digging away the earth around the rock, and by the time it was dark, had possessed themselves of eight-

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een or twenty additional pieces. They then abandoned the search, intending to renew it on the following day. That night a severe snow storm occurred, which covered the ground, and rendered further investigations during the winter impracticable. Early in the spring they resumed the examination. On the top of the rock, embedded in the mass, one or two coins were found, and upon striking a crowbar in the declivity, and grubbing up the alders, they came upon a large deposit, numbering some four or five hundred pieces of the currency of France, Spain, Spanish America, Portugal, Holland, England, and Massachusetts. . . . The greater part of the money was found contiguous to the rock, but many pieces were afterwards exhumed ten or twelve feet distant. As several of the smaller coins appeared to be scattered down the declivity, it was probable that they were washed away by the action of the elements. No vessel or covering, or remains of any, were found in connection with the coins. Appearances indicated that the deposit was originally made at the side of, or perhaps on the rock, without any protection except a perishable one. Many of the coins retained their original brilliancy, but some were blackened and discolored by exposure to the weather. Dr. Joseph L. Stevens,¹ of Castine, visited the spot early in April,

"I am indebted to Dr. Stevens for very valuable information in relation to the coins. Without his kind assistance, it would have been impossible to have prepared this article." (Note of Williamson.)

Mr. Williamson proceeds with the descriptions and a statement of the number of coins found and concludes with his explanation of the occasion for their burial.

1841, while Capt. Grindle was still engaged in searching the ground, and several coins were dug up in his presence. An opportunity was afforded him to examine at his leisure the entire collection, before the owner had disposed of any portion, and to select the most perfect specimens of each variety which could be found. These, seventeen in number, he paid for at the rate of old silver. Other gentlemen secured similar samples; but Dr. Stevens' collection is the most complete that has been preserved. Most of the coins were paid to a creditor of Capt. Grindle, and ultimately found their way into the crucible of a silversmith. The exact amount which their fortunate discoverer realized probably exceeded five hundred dollars. No other money has ever since been discovered at Johnson's Point, but the extent of numerous excavations in its vicinity indicate that the neighboring inhabitants believe that additional treasures are yet concealed."

A subsequent account of the find is given in George Augustus Wheeler's *History of Castine, Penobscot and Brooksville, Maine*,† published in Bangor in 1875. This statement is said to be "mainly that of Dr. Joseph L. Stevens" and because of its interest, the author "does not hesitate to insert it entire." Since Dr. Stevens was present when some of the coins were found, and since his version differs somewhat from that of Mr. Wheeler, his testimony must be given considerable weight. He refers to the information given in the earlier article

†pp. 194-5.

and there is mention of the section of the deposit secured by himself and some "friends . . . each of whom purchased a number of coins." "The writer (Dr. Stevens) selected as nearly as he could, a specimen of each (variety), nineteen in number. There must have been in all nearly, if not quite, two thousand pieces, but a large proportion of them were only small fractions of crowns and dollars. The French money largely predominated; next, the old Spanish "cob" dollars. . . . There were quite a number of Belgic and Portuguese coins. The most interesting of all were the Massachusetts pine-tree shillings and six-pences, all of date 1652, and in number about twenty-five or thirty. I saw but two English coins, shillings—worn nearly smooth."

The most marked divergence in the two accounts is in the number of coins the deposit is said to have contained—four to five hundred in the earlier account; "nearly if not quite two thousand pieces" in that of Dr. Stevens. The next in importance of the differences is in the number of the Pine Tree issues—in the earlier record there are stated to have been fifty to seventy-five shillings and nearly as many six-pences, while Dr. Stevens gives a total for both denominations as from twenty-five to thirty. There is also disagreement regarding the number of "Belgic" and Portuguese pieces found.

There is one further discrepancy to which attention should be directed before we proceed to a description of the coins, and that involves the number selected by Dr. Stevens. The account published in 1859

gives the number as seventeen, Mr. Wheeler's statement, which quotes Dr. Stevens, says nineteen, while the photograph dated before 1883 in the possession of the American Numismatic Society shows eighteen and the frame loaned for our exhibition contains nineteen. Checking discloses that the piece we have numbered 26 in the list which follows is not in the 1883 photograph. We also find that No. 24 is a piece which bears the date of 1769—a condition which obviously justifies its rejection as an addition or interpolation. The rejection is further warranted in that all of the Spanish-American issues were lumped by both Mr. Williamson and Dr. Stevens as 'cobs' without further distinction. The worn condition of No. 24 is such that it may later have been accepted as part of the original hoard without critical examination. A similar condition must account for No. 25. This brings the total number of coins back to the figure with which we started—that is, seventeen.

In addition to the seventeen coins originally selected by Dr. Stevens, plus the two which have been rejected, there were seven other coins loaned by the Maine Historical Society as possibly forming a part of the original Castine deposit. One of these (No. 25) must be rejected because of its date, 1768. This test is safely passed by each of the others, and they are included in the catalogue which follows, being Nos. 3, 8, 9, 10, 11, 23, and further distinguished by an asterisk to indicate that they are not part of Dr. Stevens' selection.

These were presented to the Maine Historical Society by the Hon. Joseph Williamson, the author of the 1859 account of the find.

FRANCE

Louis XIII.

1. LVDOVICVS·XIII·D·G·FR·ET·NAV·REX
Laureate and draped bust of Louis XIII to r.

Rev. ·SIT·NOMEN·DOMINI· A (mint-mark for Paris) ·BENEDICTVM·1642. Crowned shield bearing the fleur-de-lys of France.

Æ. 27 mm. Louis d'argent de 15 sols (Paris Mint), weighing 103½ grains (6.71 grms.). Hoffmann, *Les Monnaies Royales de France*, Pl. LXVIII, 89.

2. LVD·XIIII·D·G (star) FR·ET·NAV·REX
Youthful bust of Louis XIV, wearing laurel wreath, draped and cuirass with order of St. Esprit, to r.

Rev. Similar to No. 1 save for date, 1652, and rosette at beginning of inscription.

Æ. 40 mm. Écu blanc or d'argent (Paris Mint), weighing 418 grns. (27.09 grms.). Hoffmann, *loc. cit.*, Pl. XCV, 74.

3.* Similar to No. 2 for inscription and type except in minor details.

Rev. Similar to No. 2 except for m. m. L (Bayonne), date (1655) and for an added monogram (conjoined L and B†) and cross separating end of inscription from date.

†This monogram is identified by A. Blanchet in an article on the Bayonne Mint in the *Rev. Num.* (1913, p. 73) as belonging to Martin de Laborde, a mint master, and Forrer's *Biogr. Dict. of Medalists* states that he was mint master from 1650 to 1656.

Æ. 32 mm. Demi-écu blanc or Louis d'argent de 30 sols; wt. 205 grns. (13.28 grms.); Hoffmann, *loc. cit.*, Pl. XCV, 76.

4. LVDOVICVS·XIIII·D·GRA· A rose or rosette precedes the XIIII. Draped bust of Louis XIV to r.; the portrait more mature than in No. 2, and without wreath.

Rev. FRAN ET NAVARRE REX 16 76 Beneath a crown, a cross of fleur-de-lys with m. m. D (Lyons) at center.

Æ. 19 mm. Four sols; wt. 25½ grns. (1.59 grms.); Hoffmann, *loc. cit.*, Pl. XCVII 106.

5. ·LVD·XIIII·D·G: (Sunburst or Helios head) FR·ET·NAVREX Draped bust of Louis to r.; beneath 1690. The portrait is now mature.

Rev. (Crescent) CHRS REGN VINC IMP (Star). Four double-Ls crowned and arranged in form of a cross, with fleur-de-lys in the angles, and letter K (m. m. for Bordeaux) in circle at center.

Æ. 33mm. Demi-écu aux huit livres; wt. 208 grns. (13.48 grms.); Hoffmann, Pl. XCIX, 134. This piece re-struck over earlier issue—the word BENE-DICTUM is discernible on the obverse.

NEW ENGLAND

6. MASATHVSETS·IN· The N is inverted. Legend between two circles of dots; at center a pine tree.

Rev. NEWENGLAND·ANDOM· Legend between two circles of dots—the outer one off-flan. At the center, in two lines, 1652/XII.

Æ. 29 mm. Mass. shilling; wt. 72 grns. (4.67 grms.); Crosby 4-F, Wurtzbach 42.

7. MASATHVSETS·IN· The pine tree is high on the die.

Rev. NEWENGLAND·ANO· At center, in two lines, 1652/VI.

Æ. 19 mm. Mass. sixpence; wt. 33 grns. (2.14 grms.); Crosby 1-A.

8.* Inscr. similar to Nos. 6 and 7 except that periods are replaced by 'rosettes'—the first having five dots, the second seven. Branches of tree spreading and slightly curved.

Rev. NEWENGLAND·AN·DO· At center, 1652/XII.

Æ. 24 mm. Mass. shilling; wt. 69 grns. (4.46 grms.); Crosby 15-0.

9.* Similar to No. 8—the first 'rosette' has four dots in a compact cluster; the second is composed of larger dots.

Rev. NEW: ENGLAND: AN: DO: At center, 1652/XII.

Æ. 25 mm. Mass. shilling; wt. 68½ grns. (4.44 grms.); Crosby 14-R.

MEXICO†

10.* PHILIPPVS IIII DEI G (Date off-flan). Shield with Spanish coat-of-arms of period. To left, letters O M P.

† No effort is made to give the punctuation on these cob pieces—when visible on the specimens from this hoard, the periods seem to be centered. The inscriptions for these Spanish-American issues (with the exception of No. 15) are supplied from better preserved specimens.

Rev. HISPANIARVM ET INDIARVM REX
(Small cross). Cross quartering arms of Castile and Leon in ornate reserve.

Æ. 35x33 mm. 8 reals; wt. 418½ grns. (27.12 grms.); Herrera, *El Duro*, Pl. XIII 10.

11.* Similar to No. 10; both date and mint indications illegible.

Rev. Similar to No. 10.

Æ. 37x29 mm. 8 reals; wt. 415½ grns. (26.93 grms.); Cf. ref. for No. 10.

12. CAROLVS II DEI G (Date off-flan).
Shield with coat-of-arms. The mint-mark for Mexico City to l. with G beneath.

Rev. Similar to Nos. 10 and 11.

Æ. 34x34 mm. 8 reals; wt. 418 grns. (27.09 grms.); Herrera, *El Duro*, Pl. XIV, 2.

LIMA

13. PHILIPPVS IIII DEI G (Cross). Above a base of slightly curved lines filling the exergue, two pillars supporting a crown; between the pillars, in two lines, L * M/1659. To r. of columns, 8/V. A dot or pellet above and below the 8 and another beneath the V. Field to l. of columns not struck up.

Rev. HISPANIARVM ET INDIARVM REX
Inscription between two circles of heavy dots. Within a reserve whose double outline is not con-

tinuous, a plain cross with the arms of Castile and Leon in the quarterings.

Æ. 37 mm. 8 reals; wt. 423.5 grns. (27.44 grms.); Cf. Herrera, *El Duro*, Pl. XI, 9. (p. 204, No. 393); and Wayte Raymond, *The Silver Dollars of North and South America*, p.35, No. 1.

BOGOTÁ

14. PHILIPPVS III·D G The stops in the inscription indicated here by periods are, on the coin, in the form of a small cross of five dots. Crowned shield with the arms of Castile, Leon and Granada; in field to l. and reading upward from center, .VIII.; to r., cross of five dots as in inscription, between two pellets or periods.

Rev. Legend as for No. 13, within a circle of large dots and an inner one of small dots between two linear circles. In center two pillars, each crowned, and resting on basis of curved lines which fill the exergue. In field to l., P(?)° RM; to r., 1657. Between the pillars in five lines PLVS/VL/TRA/O/NR.

Æ. 44 mm. 8 reals; wt. 418.5 grms. (27.12 grms.); Cf. Medina, *Las Monedas Coloniales Hispano-Americanas*, p. 258, 304.

POTOSÍ

15. CAROLUS D G HISPANIARVM REX
Inscription between two circles of dots. Cross quartering the arms of Castile and Leon, with a

pomegranate (?) or bud above the topmost arm, 78 beneath the lower arm, the letter P between two dots at the left and the letter E between dots at the right. The linear reserve noted in Nos. 10–12 and in No. 13 is indicated by four double-lined arcs connecting the tips of the arms of the cross.

Rev. POTOSI ANO 1678 EL PERV between two circles of dots. Two pillars with ornate trefoil capitals resting on wavy base-lines. The inscription in three lines is separated by two horizontal lines as well as by the pillars vertically—P 8 E/PLV/SVL/TRA/E 78 P. At the top, near the rim and midway between the pillars, the pomegranate as on the obverse.

Æ. 37 mm. 8 reals; wt. 409 grns. (26.50 grms.); Cf. Medina, *loc. cit.*, p. 228, 247.

16. Similar to No. 15—the inscription terminates with the I of HISPANIARVM; the cross has 2 above the top arm, 83 below the lower arm, an indistinct letter to l. and the letter V to r.

Rev. Similar to No. 15 save for indication of value and minor details.

Æ. 27 mm. 2 reals; wt. 95.5 grns. (6.19 grms.); cf. Medina, *loc. cit.*, p. 229, 250.

MEXICO (?)

17. Badly worn, but apparently similar to Nos. 11 and 12.

Rev. Worn—the shape of the cross-arm and of the linear reserve similar to those on Nos. 11 and 12.

Æ. 23 mm., 1 (?) real; wt. 53 grns. (3.43 grms.);
cf. Medina, *loc. cit.*, p. 73, 19.

NETHERLANDS

18. HAC NITIMVR HANC TVEMVR Draped female figure, facing, with r. hand holding an upright spear on which is a hat; the l. arm resting upon a book with two clasps on an ornamental support.

Rev. MO: NO: ARGENT· ORDIN. WESTF.
1682 Crowned shield bearing two lions *passant gardant* to the l.; in field, to l. 3—to r. G.

Æ. mm. 3 gulden; wt. 481 grns. (31.82 grms.);
Verkade, *Muntboek*, Pl. 68, l.

19. MO· ARG PRO: CON FOE·BELG· GEL
On a shield, supported by a male figure in helmet and armor, a rampant lion to l.

Rev. CONFIDENS·DNO·NON·MOVETVR·1641
As type, rampant lion to l.

Æ. 41 mm. Leeuwen daalder (lion dollar); wt.
404 grns. (26.19 grms.); Verkade, *Muntboek*, Pl.
11, l.

SPAIN

20. PHILIPPVS· IIII· D G Crowned shield with coat-of-arms used during the latter part of the reign of Philip IV, with escutcheons of pretense for Portugal and Flanders-Tyrol. In field to l., B and section of aqueduct (mint-mark for Segovia); in field to r., IIII.

Rev. HISPANIARVM·REX·1659· Within an outer linear border and an inner one of dots, the arms of Castile and Leon in the quarterings of a cross having thin linear arms—the whole within a reserve having a double-lined border. In the upper l. field, a countermark: a crowned rectangle enclosing the figures 300.

Æ. 36 mm. 4 reals; wt. 195 grns. (12.64 grms.); Herrera, *El Duro*, Pl. VI, 5. For counter-mark, *Ann. Primeiro Congresso de Num. Brasileira*, Vol. I, p. 409.

PORTUGAL

21. IOANNES·III·D·G·REX·PORTVGALIE
Crowned shield bearing the arms of Portugal between two annulets.

Rev. IN·HOC·SIGNO·VINCES·:· Cross of St. George with letter P (mint-mark for Oporto) in each of the angles.

Æ. 26 mm., Tostão; wt. 86.5 grns. (4.60 grms.); Aragao, *Descrição . . das Moedas . . de Portugal*, II, Pl. XXXII, 23.

ENGLAND

22. ·CAROLVSD : G : MAG : BRI : FR : ET
HIB : REX. (Mint-mark, triangle in circle—used during period 1641–43). Crowned bust of Charles I to l. within dotted circle; in r. field, XII.

Rev. CHRISTO AVSPICE REGNO (Mint-mark as on obv.) Within a dotted circle, a square plain shield over a cross fleury, with coat-of-arms of Charles.

Æ. 30 mm. Shilling; wt. 86.5 grns. (4.60 grms.); Hawkins, *Silver Coins of England*, p. 343, cf. Pl. XLIV, 517.

BRUNSWICK—LÜNEBURG

23.* IOHAN·FRIED·D·G·DUX·BR·ET LUN (rosette). Rearing horse to l., with 12 beneath.

Rev. F·BR·LUN·LANDT·M·V·F·SILBER· (rosette). At the center, *XII*/MARIEN/GROSCH/1671./* (rosette)*.

Æ. 30 mm. 12 Mariengroschen of fine silver; wt. 110 grns. (7.13 grms.); Fiala, *Münzen und Med. der Welfischen Lande: Das Neue Haus Lüneburg (Celle) zu Hannover*, p. 311, 1894.

POTOSÍ OR LIMA

24. Badly worn piece; only the cross of the type of Nos. 15 and 16 discernible, with traces of the quarterings.

Rev. Compare with No. 16—the pillars, the letter P at the upper right and the date 769 at the center of the lower line are decipherable, as is the 2 indicative of its value in the first line.

Æ. 22 mm. 2 reals; wt. 98.6 grns. (6.36 grms.); cf. *Cat. Manuel Vidal Quadras y Ramon*, Vol. III, 10230, Pl. 67a, 8.

25. Similar to No. 24.

Rev. The I indicating its value, and the letter P(?) and a P reversed are visible in the first line; at the center is SVL, and in the line beneath 768—the last digit not certain.

Æ. 19 mm. 1 real; wt. 47 grns. (3.05 grms.); cf. ref. for No. 24.

UNCERTAIN

26. Cross crudely similar to those of Nos. 24 and 25, and with crude segments like those of Nos. 15 and 16. The quarterings are reversed—i.e., they have the lion of Leon at the upper right instead of the castle for Castile. Above the upper cross-arm, and below the lower one, .2. to indicate the value. To left, the letter L with periods above and below; similarly to r., M. The whole in a circle of heavy dots.

Rev. Similar in form to No. 16. The inscription reads L 2 M/PLV SVL TRA/M 182 L. A circle of heavy dots is indicated beneath the wave-lines—possibly a double circle.

Æ. 25 mm., imitation of 2-real piece, wt. 49.5 grns. (3.21 grms.). For the Lima issues imitated, see Medina, *loc. cit.*, pp. 181 ff. Cf. also *Cat. of the Coll. of Julius Guttag*, p. 443, note, for statement of what little is known regarding these imitations.

It is apparent that any assignment of a date for the burial of the deposit must be governed by the coins found. If the coins had been without dates, we should have had to rely on the relative wear shown by the coins in the hoard; those without signs of circulation would have been considered the latest. But most of the pieces selected by Dr. Stevens have perfectly legible dates, with the exception of the Mexican pieces-of-eight. These, however, bear the names of the Spanish rulers during whose reigns they were minted, and also initials of the mint-masters by whom they were struck, which sometimes serve as aids in identification as well as providing some indications of chronology. These initials are usually to be found below the letters M which indicate that the coins were struck at Mexico City—a second letter is sometimes found to the right of the shield which serves as type. In the present instance, two are attributable to Philip IV and one to Carolus II, who reigned from 1665–1700. It is therefore barely possible that our No. 12 *may* not have been struck before 1700, though the chances would make that seem highly improbable. The date for the mint-master whose initials occur on this piece is given in Pradeau's list† as 1674.

The latest discernible date for a coin in the deposit is 1690 (No. 5). This is clearly to be read on a demi-écu struck at the Bordeaux mint in that year. The coin, in contrast to the Mexican piece, is in fine condition and with only slight signs of circulation.

†Pradeau, *Num. Hist. of Mexico*, p. 45.

If we are to consider this as the latest piece in the find, we must allow a reasonable time for its voyage to the New World—at the very least a full year and more, probably several years.

In the study of hoards, the site on which they are found is frequently of great significance, and we should expect this condition for the Castine coins. We must therefore look into some of the facts which the accounts already cited assume as common knowledge.

The excellence of Castine's harbor had been noted by Champlain, who entered Penobscot Bay about 1604, for the name of Pentagoet, by which the place was known to the French, appears prominently on the map which accompanies the description of his voyages. Furthermore, Capt. John Smith mentions the site as the principal habitation he saw at the northward when he visited it in 1614.†

A trading post was established here in 1630 by the Plymouth Colony and this functioned for five years. Both French and English sought the trade in furs and much bad feeling must have resulted.

By the treaty of Breda between the English and French in 1667, Nova Scotia was ceded to the French and in February of the following year, the whole of Acadia also, including Penobscot (Pentagoet), which is specifically mentioned. It was about this time that Baron Jean Vincent de Castin (also called Sieur de Badie) arrived and settled here. Later a residence and fort was built by Baron Castin on the

†Smith's Journal in Coll. Mass. Hist. Soc., III, 21, 3rd series.

site which now bears his name. A devout Catholic, he erected a chapel in the fort. He married a daughter of the Tarratine Indian chief, and by this union there was a son named Anselm, who later succeeded to his father's position and influence. Wisdom and restraint seems to have marked Baron Castin's relations with the Indians, by whom he was highly esteemed. The trade in beaver and other furs must have been extremely profitable and seems to have been the cause for the attacks upon the place.† In 1674, both the English and the Dutch made raids. In 1676 a Dutch man-of-war seized the fort and held it until vessels from Boston drove the Dutch from the peninsula. For the next ten years, we are told, there was a peaceful interval.

The territory between the Penobscot and the St. Croix seems to have been subjected to repeated claims and counter-claims during these years, and in 1688 we find Sir Edmund Andros, Governor of New England, at Castine. Baron Castin, believing that his capture was the objective of the visit, withdrew to the mainland, whereupon the arms of the fort and even some of the furniture were seized and a message left that his property would be returned if he would render allegiance to the English King. In 1690, Sir William Phips, who had been sent by Massachusetts to subdue Nova Scotia, took posses-

†Williamson (*loc. cit.*, p. 111), cites a statement by Baron Castin in 1695 that the volume of the fur trade at this post was eighty thousand livres annually. Whether this means that the profits are represented by this sum or that it is the selling price of the furs in Europe, is open to question.

sion of the intervening coast. Seeing the trend affairs were taking, Castin gave in his adherence to the English (about 1693, according to Willis), and thereafter, despite criticism from the French, seems to have marketed his furs by way of Massachusetts. In 1701 Castin left for France, where he died in 1703, or later. We learn of an expedition in 1704 during which Col. Benjamin Church captured many French and Indians, including a daughter and grandchildren of Baron Castin.

In making deductions from the evidence permitted by the coins that we have in hand, it must be remembered that we should have been on safer ground had the entire deposit been available. It is only when a hoard can be studied as a whole that the best results are obtainable. With the Castine coins, we are fortunate that a careful examination of the whole was permitted at the time of discovery. The selection made by Dr. Stevens seems to be what he claimed—a choice of the best preserved specimen of each variety recognized by him. We have noted that there are two pieces (Nos. 24 and 26) which must be rejected. We have also noted that one of the pieces in the lot of seven presented by Mr. Williamson (No. 25) must also be eliminated. It is possible that this should also be the fate of No. 23, but the inclusion or the exclusion of this piece does not radically affect our consideration of the deposit. This coin is a twelve marien-groschen of 1671 struck for Johann Friederich of the house of Lüneburg (Celle) in Hanover—one of the German states

not far removed geographically from West Friesland and Gelderland, represented by the coins numbered 18 and 19. How did this piece escape the attention of Dr. Stevens if it was among the coins of the deposit examined by him?

Both Williamson's and Stevens' accounts of the finding of the deposit state that the French coins formed about one-half of the total. This is noteworthy because the French in Canada were never plentifully supplied with hard cash. Whence could so heavy a proportion have come? Did Baron Castin have means of obtaining French silver from the homeland not possessed by other colonists? Or could he have obtained French coins from the Massachusetts buyers of furs who might in turn have gotten them as a result of their West Indies trade—indirectly rather than directly from Martinique, since for most of the reign of Louis XIV, France and England were at war and direct trade therefore improbable. New England skippers would not have been slow to realise that French coins would be welcome at Castine. A further possibility would have been the pirates—a consideration of their having any connection with the deposit must be deferred for the moment.

Dr. Stevens' account places the Spanish issues, which are lumped as 'cob' dollars, second as to numerical representation in the deposit—Mr. Williamson who mentions the Pine Tree issues as second, says the 'cobs' came next. Of this group there are preserved for us four of the eight-real pieces

in the original Stevens selection (Nos. 12 to 15), plus two and one real pieces (Nos. 16 and 17). In the supplementary gift of Mr. Williamson there are two additional pieces-of-eight (Nos. 10 and 11), while No. 20, as we shall see, is in a class by itself. The designation "cob dollars" was loosely used for these irregularly shaped pieces, but it does not seem to have become general until after 1700. When the Spanish "milled dollars" came into circulation they were given preference over the "cobs" as collectors of the Continental notes of the Revolutionary period will recall. In John Hull's account books, preserved in the Library of the New England Historic Genealogical Society, reference is usually to "pieces-of-eight."

Although we have frequent mention of 'Seville dollars' in the records, none of the Castine coins that have come down to us are from that mint. The single Spanish issue is from the Segovia mint (No. 20), but it bears a countermark which places it in another category. Here, however, it is noteworthy for its excellence of workmanship, comparing favorably with the French coins in that regard.

Fortunately for us, Dr. Stevens' selection was an observing one. Three pieces-of-eight and a one-real piece are from Mexico. One piece-of-eight and a two-real piece are from the Potosi mint, in what is now Bolivia and was then Peru. One piece-of-eight is from the mint at Lima, and another from a mint in what is now Colombia—Santa Fé de Bogotá.

Most of these coins are, we have noted, irregular

in shape and imperfectly struck. The flans have seldom been reduced to anything approaching flatness, and as a consequence, the types are only occasionally complete and frequently the flans have received so weak an impression that certainty of identification is extremely difficult. The 'Peruvians' were in disfavor because an issue of about 1650 was not up to standard in purity, and this condition led to counterstamping with a 'Golden Fleece' in Antwerp to permit their circulating in the Low Countries when pieces were of good weight.

Charges that these coins were clipped excessively do not seem to be borne out by the specimens in the Castine deposit—although their appearance would bear out this charge, the scales do not. We must remember, however, that clipped pieces would have been put back in circulation rather than added to the contents of a hoard such as this. The Mexican pieces in the deposit offer little of distinction. In addition to being imperfectly struck, they are worn, and save for the possibility that No. 12 might have been struck as late as 1700, are unimportant.

Nor are the two coins of Potosi of exceptional interest. It would have been helpful if we could have learned the mint-origin for all of the pieces which were melted; for information such as this we shall have to await the discovery of another deposit.

Of the remaining pieces-of-eight, No. 13, struck at Lima, is the most important. It bears the date 1659, and this variety with the letters L and M separated by a star is exceedingly rare. Although the

mint in this city was established under a royal decree dated 1565, very few of its early issues have survived and this addition to the known specimens is a very valuable one.†

Concerning the Pine Tree pieces in the deposit, we have already noted a contrast between the estimate of Mr. Williamson as compared with that of Dr. Stevens. The four examples in our catalogue do not include any of the types which preceded the Pine Tree type and this tends to confirm Crosby in his placing the Willow and Oak as the earlier forms. There is also confirmation of his placing the small-flan issues as later than the broader Pine Trees which match the Oak Tree coins in diameter. Their weight shows but slight deviation from the norm of 72 grains, for No. 6 is of full weight, No. 8 weighs 69 and No. 9, 68½ grains, while the sixpence weighs 33 grains. With the exception of Nos. 4 and 17, these are the lowest-value denominations in the deposit. If Mr. Williamson's statement that there were nearly as many sixpences as shillings is correct, we have a striking demonstration of the demand for the smaller piece in trade.

We should have been grateful for a chance to examine the coins melted to see whether there were signs of clipping among these Pine Tree issues. The degree of wear might also have permitted some deductions of value, for it is entirely possible that some

†For a lengthy discussion of the records regarding the brief re-opening of the Lima Mint in 1658, cf. Medina, *Las Monedas Hispano-Americanas*, pp. 160 ff., and an abbreviated summary in *Cat. Coll. of Julius Guttag*, p. 432.

pieces which were worn showed so little of their type that their classification as being all Pine Tree varieties may be erroneous.

No. 21 is a Portuguese coin called a tostão—a parallel with the Italian issue called 'testone', and so named because of the head which occupied the obverse, but which on the Portuguese form is replaced by the coat-of-arms. Our piece was struck at the Oporto mint during the reign of João IV (1641–1656). It weighs $86\frac{1}{2}$ grains and is therefore worth but a little more than a New England shilling (72 grains) and closely approximates the English shilling.

No. 28 is a four-real piece originally struck in Spain at the Segovia mint in 1659. It bears a countermark, however, which indicates that its circulation value has been raised to 300 reis, and the consensus of opinion now is that this counterstriking was done in Brazil†. This increase in value took place under a law passed in 1663—the original value of the four-real piece being 240 reis. The piece shows but slight signs of wear. Countermarking such as is shown on this piece established the value at which the coins of Spain or of the Spanish mints in the New World would be accepted in the Portuguese colony. It would seem to demonstrate that in Brazil as in New England, the Spanish coins were current because the mother country could not meet the needs of the colony for small change. Such

†See the article by Dr. Edgar de Araujo Romero in *Annas Primeiro Congresso de Numismatica Brasileira*, Vol. 1, p. 409.

countermarking could be done easily in the colony even though no mint had as yet been established there. The accepted date for the first Brazilian mint is 1695. It was not until after 1700 that the Portuguese gold began to supersede the Spanish gold coins in the confidence of the English and Americans.

No. 18 is a 3-gulden piece struck for the Dutch province of West Friesland in 1682. In size, this matched the ducaton, or 'rider', for which it seems to have been mistaken in Mr. Williamson's account. Its weight of 481 grains compares with the weight of from 415 to 423 for the Spanish-American pieces-of-eight and 418 grains for the French écu.

No. 19 is a Leeuwen-daalder or Lion dollar, struck for Gelderland in 1641, and therefore one of the earliest coins in the deposit. Its weight is 404 grains or slightly under the gross weight of the Spanish-American pieces. Initiated in 1575 by the independent Netherland States, these Lion dollars were later used for the Dutch trade with the Levant. They were widely imitated in Germany, Italy and Denmark and were ultimately supplanted in Levantine commerce by the Maria Theresa thalers and the piasters. They seem to have had considerable popularity in some of the English colonies after 1650—presumably in New York, where the currency of the Hollanders might be expected to have persisted, but also in Pennsylvania and Maryland. Chalmers† states that these dollars "were the chief

†Chalmers, *Colonial Currency*, p. 12.

metallic currency of Maryland in 1701. An Act of December 1708, 'for settling the rates of foreign silver coynes within the Province' speaks of the 'Dogg' dollars as the 'only generall coyne among Us.' They were to pass as 4s. 6d."

A memorial presented to the Colonial Board of Trade in 1700 provides interesting details of the situation:

"There is now in these Plantations a great quantity of Spanish money Plate and Bullion and would be much more if returns were answerable; which money Plate and Bullion is of no use to the Inhabitants to make returns to England because of the uncertain value putt upon it there, and a piece of Eight in the Bahamy Islands being about five shillings the same in Carolina, in Maryland and Virginia four shillings and sixpence, in Pennsylvania Seven shillings, in New York and New England six shillings and sixpence, but frequently rising and falling in value by the Contrivance of some designing men in those Countryes who engross it when att the lowest and soe make Merchandize of it and export it into foreign parts where it is more value than in England."

The part played in the affairs of the New World at this time by pirates and privateers was so considerable that we must take into account the possibility that the Castine deposit was made by one or more adventurers, before accepting any other reason for its burial. The line between pirate and privateer was often all but indistinguishable—there is on record the defense of one doughty captain that he did

not know that peace had been signed at the time he captured the vessel he claimed as prize. Since the intervals of peace between England and France from 1650 to 1700 were brief, and since Spain and Holland were also at war with England during some of these years, attacking the enemy's shipping was an easy and profitable means of improving the fortunes of the merchant-sailors of New England. The building and equipping of vessels, which steadily increased in size, received strong encouragement from the success of such ventures. Even recognized pirates were granted entrance to certain colonial ports where their willingness and ability to put hard cash into circulation won for them a welcome which did not escape the condemnation of the right-thinking element of the citizenry.

If we accept Williamson's statement that the coins in the Castine hoard had a silver value of a little more than five hundred dollars, we have an amount which might well represent the 'share' a member of a pirate crew, or of the crew of a privateer, had received at the end of a voyage. A landing at Castine had to recommend it that it was a border port—one from which return either to the French or New England colonies might easily be made without the source of one's earnings becoming apparent. An entire volume† is devoted to a history of piracy on the New England coast. Moreover, we know that up to 1700, Jamaica was a

†George Francis Dow and John Henry Edmonds. *The Pirates of the New England Coast, 1630-1730*. Salem, 1923.

notorious rendezvous for vessels with crews whose records would not withstand examination, and that the Massachusetts seamen found it profitable to repair thither for bar-silver, pieces-of-eight and Spanish iron.†

One of the chief objections to thinking the Castine coins the belongings of a pirate or privateersman is to be found in the composition of the deposit and the fact that it was secreted along the line of retreat from the town after 1690 (the date of coin No. 5); that is, following a seaward attack upon the fort. Secondly, a preponderance of French coins seems unlikely for a privateersman since we know that the sending of hard cash to Canada in quantity was never a practice of the French Government.

Both Messrs. Williamson and Stevens give a clear-cut expression to their belief that the coins were secreted by someone in Baron Castin's entourage, but the former's opinion is colored by the mistake of thinking that the latest dated coin in the hoard was struck in 1688, one of the years in which the Castine peninsula was raided. We have seen that No. 5 is dated 1690 and have noted that additional time must be allowed for the coin to have crossed the Atlantic. It has also been noted that Baron Castin left the Maine coast in 1701 and that he died in France in 1703, or later. If the coins in the deposit had been part of the money-chest of the trading post, and if they had been buried before the

† Cf. entry in John Hull's Letter-Book preserved in the Library of the American Antiquarian Society at Worcester, Mass.

Baron left Castine, we must find some explanation for their not having been unearthed or reclaimed after the danger which had caused their burial had passed—a condition the more unlikely because their hiding-place might easily have been described to someone who did not know their whereabouts. Wheeler's *History of Castine* states that "In 1701, Baron Castin left for France, taking with him two or three thousand crowns in 'good dry gold'. It is probable that he never returned to America, although it is not unlikely that he intended to do so." Carrying such a sum in gold is easily to be understood because of the lesser bulk as compared with silver, and also because of the dearth of silver in the colonies.

We may suspect that the weight of these silver coins played a determining part in the decision to hide them near the rock on the shore of the Bagaduce, and this supports the idea that the concealment was in the course of flying from danger at the fort or in the town. The weight of this excess baggage would have proved an impediment and hiding it in a spot to which future return was easy was an admirable solution, comprehensible under the circumstances. In May of 1704 during Queen Anne's War, Col. Benjamin Church commanded an expedition along the eastern coast. He captured many French and Indians, among whom were Baron Castin's daughter and her children. It seems that the flight from an attack such as this best accounts for the conditions which surround the burial. The

heavy preponderance of French coins could be explained because they would be more acceptable among those to whose protection the fleeing traders were turning.

The number of persons to whom the hiding place was known must have been small, but the fact that the coins remained here without the owner returning for them is indication that the secret of their burial was well kept—probably for the reason that death, and very likely sudden death, intervened before there was an opportunity for reclaiming them. This would explain why the place of concealment was not revealed to some friend or retainer of the owner in order to regain the treasure—if the whole had belonged to the Baron or someone in his employ, it is hard to find a reason why this was not done.

It therefore seems that agreement with Messrs. Williamson and Stevens is to be preferred to thinking the deposit made by pirates, although the date accepted by them must be revised in favor of a later one. The year 1704 seems best to meet the complicated circumstances recorded.

It is profitable to analyze the conditions which brought these coins to this sheltered Maine port at such an early date. The trade with the Indians was chiefly in beaver skins and other furs. Payment for them would not have been made in silver, which had slight appeal to the Indians. Steel implements, such as knives and axes, trinkets and whiskey were articles of barter in which they were

interested. After Baron Castin "gave in his adherence to the English" in 1693, he must have received such coins as the Pine Tree shillings, those from the Spanish colonies, and the English pieces, from this source, in payment for furs. Although the French coins might also have come by way of Massachusetts, they are more likely to have been received from the French of Acadia in return for materials which the Baron could obtain more easily than they.

The Peruvian pieces from Lima and Potosí must have made their way up the west coast to the Isthmus of Panama, and after making the crossing, reached some island of the West Indies at which the New England skippers touched—most likely the Barbadoes but possibly Jamaica. Similarly, the Mexican pieces-of-eight must have voyaged to the same or other islands unless a watchful privateer or a pirate had changed their destination. We have seen that these Spanish colonial issues were welcome in Massachusetts because of the scarcity of coins there. We also know that salted codfish, a staple and profitable export of the early New Englanders, were eagerly bought in the West Indies. If the New England captains did not find a desirable cargo permitting their direct return, they frequently loaded with merchandise salable in England, and there obtained goods needed at home. There was direct traffic between the English colonies and the Azores and Madeira and this would have brought them into contact with Portuguese and Spanish markets in

which their cargoes of codfish were exchanged for wines. In such transactions a relatively few Portuguese coins and a more considerable number of pieces-of-eight may have reached Boston or some other New England port, and would in turn, for lack of other currency, have been carried to Castine to be exchanged for furs. The Dutch pieces may have been left there as a result of the occupation of the Dutch man-of-war in 1676, although there is nothing to prevent their having come as the result of an effort on the part of the Dutch to outbid their competitors for the furs which were Baron Castin's chief source of wealth. They might also have come indirectly by way of the Bay Colony.

Finds of coins within the present territory of the United States have not been frequent, although they are more numerous than might be supposed. A fairly considerable number of records of such hoards may be consulted in the Library of the American Numismatic Society—in almost every case, the record is inadequate, and as a general rule, none have been properly described or studied. Another hoard was found in Maine, at Richmond's Island in 1855, not far from the site of the Castine deposit. It was composed entirely of English coins, twenty-one of gold and thirty-one of silver, and is thought to have been buried about 1645.† Another interesting hoard was found at New Windsor, N. Y. It consisted of about six hundred

†*Cf. Coll. of the Maine Historical Society*, Vol. VI, pp. 127 ff.

and fifty 'Spanish dollars' of which some 'bore date as early as 1621'. An English 'crown' (?) was dated 1768, and the latest piece was said to have been 1773. There were, in addition, a French coin of 1734 and a Spanish gold medal. Most of the coins were sold. Hoards of Pine Tree coins have been found at Roxbury, Mass. and at Exeter, N. H., but the records of the finds are very inadequate. Some finds have been made in Florida and the Carolinas within recent years.

Since almost every hoard is a law unto itself, it behooves us to ask whether the Castine deposit has any peculiarities which should be noted. It seems strange that one of the most significant of American hoards should have been unearthed at the northernmost point at which we could expect to find it. After discounting the significance of the heavy preponderance of French coins as due to the proximity to French territory, to the French sympathies and forbears of Baron Castin, and to the close rapprochement of the French with the Indians, we have, as a result of these coins having been buried, an extraordinary and illuminating indication of the currency at the time this money was concealed, not for Castine alone but for New England. It is significant that there were no gold coins; this circumstance supports the contention that it is unlikely to have been a pirate's property. From it, we might also deduce that it is less likely to have been the money-chest of Baron Castin or of his rep-

representative, and more probably that it was the property of some humbler retainer or hanger-on.

We also receive from these coins a clear indication of the importance of the Spanish-American coinage in the colonial currency, and of the circumstance that these pieces-of-eight came from all four of the Latin American mints. So far as the pieces contained in the hoard are concerned, they afford no evidence of the clipping which the colonial records bespeak so frequently, and this suggests the possibility that the appearance may have been accepted for the fact, and that the complaints regarding their having been clipped were exaggerated, perhaps deliberately, for the purpose of condoning the issue of the Pine Tree coins.

Another condition, which our plates bring out markedly, is the superior workmanship of the coins of France and of the Low Countries, as well as those of the Spanish mint at Segovia. This is true of the Seville mint also, although we do not know that there were any Seville pieces in the deposit. We know that discontinuance of the hammered coins in England took place in 1662. It is these hammered pieces which were taken for his pattern by John Hull in making the Massachusetts issues and the weight of these Massachusetts coins is an indication of the need for denominations smaller than the pieces-of-eight. The constriction of the flan and its thickening which took place toward the end of the Pine Tree coinage, shows the growing tendency in this direction—a change which had

already taken place in England and on the European Continent.

Lastly, the presence of the Portuguese and Brazilian coins serves as an indication of the growing commerce of the New England shipmasters—something which might have had further demonstration if it had been possible for us to study the section of the deposit which was melted. If the finders of similar hoards can be convinced that their holdings are likely to have an increased value when kept intact, it may result in such findings being preserved so that they can be given study to bring out whatever of historical value they may contain.

PLATES

THE CASTINE DEPOSIT



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PLATE I



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THE CASTINE DEPOSIT



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PLATE II



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THE CASTINE DEPOSIT



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PLATE III



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THE CASTINE DEPOSIT

PLATE IV



24



25



26

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(Continued)

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